Consumer Reports

"FACTS YOU NEED BEFORE YOU BUY"

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CONSUMER REPORTS

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***CONSUMERS UNION** is a non-profit organization chartered under the Membership Corporation Laws of New York State. Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental or private laboratories. Samples for test are in practically all cases bought on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.*

The Affair Aquella

In the May, 1946 *Reports,* Consumers Union published an exposé of a product called *Aquella.* This product, presented as a waterproofing preparation for wet basements, had attracted national attention as the subject of a laudatory article in *Reader's Digest. Aquella,* said *Reader's Digest,* had been developed in France during the war for the express purpose of waterproofing the Maginot Line, and was now available as a boon to American householders.

CU's exposé was based, in the main, on a report issued by the U. S. Bureau of Standards. The Bureau's report pointed out inaccuracies in the *Reader's Digest* article. The article said, for example, that the Bureau of Standards had tested *Aquella* and rated it "excellent" whether applied on inner or outer faces of walls, whereas the Bureau had found this product unreliable for inner walls.

The Bureau of Standards is a part of the Department of Commerce, and on June 3rd, the Secretary of Commerce, Henry A. Wallace, wrote a letter to Prima Products, Inc., the manufacturers of *Aquella,* retracting the unfavorable report made by the Bureau of Standards, and stating that "The Bureau stands upon the complete report of water permeability tests on coatings of *Aquella* paint applied to masonry walls dated December 8, 1942, on file in the office of the National Bureau of Standards."

An inquiry addressed to the Bureau of Standards by Consumers Union brought forth the information that the "complete" report of December 8, 1942 was a "confidential report of *preliminary tests*" [CU's italics]. Furthermore, in response to a direct inquiry from CU, the Bureau stated that, "We have not revised our findings with respect to the usefulness and limitations of either factory-made or job-prepared cement-water paints." *Aquella* is a factory-made cement-water paint.

What, then, was the reason for Mr. Wallace's retraction? In a letter to Consumers Union, Marc A. Rose, editor of *Reader's Digest,* said, "Some of the distributors of *Aquella* and some of the contracting firms which use it are of high standing in their various states. Naturally they were terribly upset by the attacks; their reputations were at stake. They made vigorous representations to Secretary Wallace. The Secretary made a complete investigation on his own, decided injustice had been done, and wrote the letter of repudiation. . . . It's unusual, to say the least, for a Secretary to repudiate publicly the act of a Bureau chief."

Mr. Rose further said, "We hope you will follow this through, get all the facts, and publish your findings."

CU has been following through and will investigate further. On the basis of its findings thus far and the above-quoted statements from the Bureau, CU sees no reason to change one word of its report on *Aquella.* It is a matter of open discussion in Washington circles that Mr. Wallace's letter of retraction came, not as the result of protests from *Aquella* distributors, but after visits to Mr. Wallace from important political figures associated with or friendly to the *Aquella* interests. It is further understood that Mr. Wallace's "complete investigation" is a figment of somebody's imagination. In acting as he did to "repudiate publicly" a Bureau chief in behalf of a politically well-connected concern, CU believes that Mr. Wallace was not damaging the reputation of the Bureau or its head, but only his own.

The whole business has a bad odor, and a thorough airing seems to be needed.

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THE NEW CAR MARKET

CU presents herewith its first survey of all postwar automobiles, with statistical data and interpretation by an automotive expert

New car buyers who intend to pay more than the *Ford-Chevrolet-Plymouth* price presumably expect to get cars having more power, speed and luxury; better appearance, durability and finish; greater prestige value, comfort and safety—or at least a majority of these attributes.

In this article, CU considers these and other attributes, and rates the cars that are supposed to have them, as well as it can in a period of chaotic production and prices.

Prestige value is one factor which is not evaluated in the ratings; it is, in fact, a rather ephemeral characteristic. It would appear, however, that prestige has to do with the size of the car and the amount of chrome plating on it; that is, unless the car is very large, in which case excessive brightwork seems to be less necessary. In terms of brand name, prestige varies directly with the known or assumed purchase price, but withdraws from brands associated too commonly with commercial or professional use, as well as from brands that are very widely distributed.

Of all reasons for paying more than the "big three" price, comfort—especially passenger comfort—remains the most valid, though the differences in this respect are far less than they were ten years ago. Comfort involves chiefly the seating space, the seats themselves, the noise level at road speeds, the ease with which one can get into and out of the car, the car suspension, and—for the driver—his position at the controls, how the car responds to them, and his ability to see out.

BODIES

The cars covered by this article utilize ten different body shells, four of which are "imported" from the lower-priced cars. (*Chevrolet* body is used on the *Pontiac LA 6* and *8*, and the *Olds 66*; *Nash 600* body is used on the *Nash Ambassador 6*; *Ford* body is used on the *Mercury*; and *Studebaker Champion* body is used on the *Studebaker Commander*.)

The other six upper-bracket bodies are used as follows: The *GM* shell introduced in 1941 is used on the *Pontiac LB 6* and *8*, the *Olds 76* and *78*, the *Buick 40* series and the *Cadillac 61;* the *GM* shell introduced in 1942 is used on the *Buick 50* and *70*, the *Olds 98* and the *Cadillac 62*; the *Chrysler* shell is used on the *Dodge*, the *DeSoto* and the *Chrysler 6* and *8*; the *Hudson* body is used on all *Hudson* models; the *Packard* body is used on all *Packard* models; and the *Lincoln* body is used on the *Lincoln* line.

In general, provided the dimensions of a body are satisfactory, the buyer should compare the various chassis on which it is available, as well as the offerings of competing lines. In the case of the "imported" bodies, this comparison should include the chassis and power-plant under the body in the lower-priced group as well. For example, all that *Mercury* offers, at $150 or so more than *Ford Super Deluxe*, is somewhat better trim, more adequate tires, and four inches more wheelbase. For most buyers this is not enough; the *Ford* is a better buy. On the other hand, *Nash* and *Studebaker* add to the lower-priced bodies (which actually compare favorably with *any* 1946 body) entirely different and more powerful engines, plus nine and seven inches more wheelbase respectively, plus bigger tires, plus extra trim quality, etc.

The chief dimensional differences between the *Chevrolet* body shell and the larger *GM 1941* body shell are, in the latter, two inches wider (but lower) seats, more rear seat leg-room, larger trunk space, and greater glass area. The windshield affords slightly better vision for tall persons, but not for the short driver, and the larger body requires a longer wheelbase, which with the added body weight requires a numerically higher axle ratio —4.3 to 1 instead of 4.1 to 1—which is a drawback.

From the standpoint of dimensions, vision and seating comfort, the six upper-bracket bodies can be rated in order of quality about as follows: *Lincoln, Chrysler, GM 1941, Packard, Hudson* and *GM 1942.*

SAFETY

Any additional safety as compared with the lower-priced cars must depend, in the cars under review, on extra ability (a) in avoiding collision, (b) in staying on the road under adverse conditons and (c) in absorbing the forces of impact in collision or upset.

Avoidance of collision requires a maneuverable car having good vision for the driver. The larger cars are at a disadvantage here. As a result of their greater weight, they usually have slower steering (that is, they require more turning of the steering wheel to effect a given change of direction), and in some cases their softer springs limit maneuvers by allowing excessive sway.

A car's ability to stop or accelerate quickly is part of its maneuverability. The power of the brakes on the different cars is adequate in this respect, with the *Bendix* type requiring less pedal pressure at high speeds than do others. Ability to control the stop accurately—desirable on wet or icy roads—is better with the *Lock-*

THE LINCOLN: *First in the highest price group* PHOTO ACME

PACKARD 120: *"Best Buy" in its group* PHOTO ACME

heed type of brake, and probably best with the new *Chrysler* "2-cylinder" brake. The self-adjusting *Studebaker* brake (of the *Lockheed* type) has the advantage that efficient brake adjustment is better maintained than on other types. *Hudson* alone continues to provide automatic mechanical application of the rear brakes if the hydraulic system fails.

Acceleration is at best a very unreliable means of maneuvering to avoid collision. But it is so used, and the cars under review do have more of it in reserve, particularly above 65 miles per hour, than do the lower-priced cars.

Good driver vision requires: (1) The cowl bar or bottom edge of the windshield, as well as the hood should be low enough so that short drivers can see out. CU finds the *Ford* body best in this respect, the *Hudson* worst. (2) The top of the windshield should be high enough so that vision is not obscured for the tall driver. This dimension (seat to top of windshield) is almost the same on all cars. (3) The windshield corner post should create the minimum blind spot. *Studebaker* has the slimmest post, but the blind spot depends also on the driver's height and the fillets where corner post and roof meet. (4) Good vision rearward and upward through the side windows, and (5) minimum blind area at left rear of the body are also important. Factors (3), (4) and (5) are best judged by the individual buyer while he is seated normally behind the wheel—preferably outdoors.

The ability of a car to hold the road at high speed or under adverse conditions ("roadability") depends on many technical factors, including the effect of car weight. A heavy car, if properly designed, will hold the road better than a lighter one, but weight alone guarantees nothing. A low center of gravity, light unsprung weight (the axles and wheels), and springs that are not too soft give best roadability.

[Normally, in order to appraise the above factors among others, CU consultants make driving tests on the cars on which they report. The present car scarcity has precluded this procedure in this rating of the 1946 cars. The cars which CU would *expect* to set the standard for roadability would be *Lincoln, Mercury, Pontiac, Buick* and *Hudson.*]

A heavy car has the advantage, in case of collison with anything that will move, that it is brought to a stop more slowly by what it hits than a light car. Conversely, it does not accelerate so rapidly if hit while standing. Both traits favor survival of the occupants. In accidents involving no collision—where the car goes off the road out of control, or rolls over—the greater momentum of the heavy car makes matters worse. All in all, the various factors indicate no definite superiority for either the light or the heavy car, so far as safety is concerned.

CADILLAC 61: *Excellent engine, but uses lots of gas* PHOTO ACME

POWER AND SPEED

The buyer of a higher-priced car expects his machine to have more power and speed than a cheaper auto. But as CU has often stated, maximum engine horsepower is a poor indicator of how powerful a car will be—how it will accelerate and climb hills. Horsepower per pound of weight is not much better as a scoring device; it indicates something of what the car will do at only one speed—that at which maximum horsepower is developed, usually in the vicinity of 70 mph. The car with the highest horsepower normally has the highest top speed—and requires the most fuel.

CU believes motorists are actually more interested in how well a car can accelerate and climb hills—things which it is required to do every day. The Statistical Table (Col. 7) therefore shows the computed maximum thrust, or propelling force, available at the rear tires (in high gear) in proportion to each car's weight. The figures are in pounds thrust or "push" available per 1000 pounds of car (shipping weight plus 500 lb.)[1] Also given is the car speed in miles per hour at which the maximum thrust is obtained.

For example, comparing the *Packard 6* and *Packard 120*, which use the same chassis, note the superior pulling power of the latter. It is a very lively car indeed. From Cols. 9 and 11 you can see why—the larger engine burns more fuel per mile so as to have more power on call. Note under *Pontiac 6* and *8* the differing speeds at which the nearly identical

[1] The figures are based on horsepower and torque as claimed by the manufacturers, nominal tire radii, and on weight figures, which may, in some cases, be altered in production.

thrust per unit weight is available. The *Pontiac 8* can provide its performance at higher open road speeds, but loses this advantage to the *Pontiac 6* in city driving.

The higher figures for the larger cars carry a double penalty, where operating costs are concerned. It costs more to move the cars around in any case, simply because they are heavier, and the extra margin of power provided necessitates a still larger and more wasteful engine, and heavier construction throughout. Note the effect of this beefing-up process on the tire capacity (Col. 5 in the table), bearing in mind that synthetic tires will not stand up as real rubber did, under over-loading.

In addition to slightly higher top speeds, the higher-priced cars, as might be expected, generally maintain high cruising speeds with superior quiet and ease. This superiority can be further increased by provision of a fourth speed (at extra cost) or an optional rear axle ratio (on order), one or the other being available on all the cars listed except *Buick* and *Mercury*.

Despite the high cost and complication of four-speed transmissions—overdrives, as on *Packard, Lincoln, Hudson* and *Nash*; *Hydramatic* on *Cadillac* and *Oldsmobile;* or the four-speed drive on *DeSoto* and *Chrysler*—CU believes they are a good investment for high-mileage interurban drivers. They increase gasoline mileage (though hardly enough to amortize their cost), ensure better oil mileage and longer piston-ring life, eliminate some or all clutch use, and give a quieter ride without, in most cases, penalizing the car's performance.

An overdrive is an *addition* to the conventional transmission and can, if desirable, be locked out of use. With it, the car free-wheels (permitting shifts to be made without the clutch, except when starting from rest) up to about 25 mph. Above this speed, momentarily releasing the accelerator engages the fourth "gear," in which the car does not free-wheel. Return to the regular (direct drive) high gear can be made at any time by momentarily pressing the accelerator to the floor; return is automatic when car speed falls below 25 mph.

The General Motors *Hydramatic* drive has no clutch pedal; it is controlled hydraulically (except that the driver selects whether he is to go forward or backward, or be in neutral). There are four "speeds" or ratios in this system. A fluid coupling is used. There is no free wheeling. The fourth speed is direct drive. Shifts up or down occur in proportion to car speed, but the speed at which the shift is made depends also on how far the accelerator is depressed. The drive shifts up through all four speeds at each start, and back down through them all at each stop. The transmission is very complicated but it has given good service in peacetime and in war vehicles. The *Hydramatic* is not economical in traffic, but its convenience value is high.

DE SOTO 6: *Gaudy but a "Best Buy"* PHOTO WIDE WORLD

The Chrysler four-speed transmission is mechanically simple, but it has complicated electric and hydraulic controls. Fourth speed is direct drive. Use is made of a conventional clutch, a fluid coupling, and a free-wheeling unit. Shifts from neutral and between second and third speeds require the use of both hand lever and clutch. A car equipped with such a transmission can be stopped in any gear, but it will creep unless shifted to neutral or held with the brakes. The car free-wheels in first and third speeds, but not in second or high. The transmission shifts from first to second and from third to fourth when the accelerator is released, and the drive can be "forced back" from fourth to third or second to first by flooring the accelerator.

No other device currently available offers four forward speeds or has other than convenience value to offset its complication. The devices listed are the only ones recommended by CU at this time.

Optional axle ratios do cut down acceleration and hill-climbing ability, but provide longer life, quieter operation and better mileage. They are usually available at nominal cost, but they must be ordered built into the car at the factory. They are not desirable in hilly country, however, especially if a full load of passengers is usually carried, but they are ideal in the plains States, for example.

DURABILITY AND DEPRECIATION

Unless you drive 40 or 50 thousand miles a year, this is not a good time

CHRYSLER 6: *Comfortable seating; good vision* PHOTO ACME

to buy a higher-priced car simply because you feel that it stands up better than cheaper cars. If you are an average user, "extra" durability bought now will show up chiefly after four or five years of use, by which time the prewar design of your car (already obsolete in terms of what the engineers know) will be hopelessly out of date.

The extra durability of the higher-priced cars shows up first in their better upholstery (springs as well as fabrics) and hardware, more coats of paint, better plating, better glass, etc. It shows up eventually in better machining and balancing of important engine parts and in better materials. But many more parts are interchangeable between low-, medium- and high-priced cars than you would suppose. (This is evident from the mechanics' interchangeable-parts list.)

In any event, you will almost certainly receive the most miles *per dollar invested* from cars in the low-price class, rather than from those under review here. The same is true of resale value in normal years; the high-priced cars lose not only more dollars, but a higher *percentage* of their cost each year. Moreover, CU feels that the present obsolescence of design will result in extra heavy depreciation of large and expensive cars in the next few years.

This will even be true to some extent of appearance, which is always subjected to forced-draft obsolescence by the industry. Real postwar cars will have new bodies made from new dies. (Only *Studebaker* and *Kaiser-Frazer* are using true postwar body dies at present.) Which car looks best to you now is a complicated matter of personal taste. In general, higher-priced cars look better because they are longer and wider. They overhang more (over-all length minus wheelbase) than the smaller cars. Their front end grilles are more expensive. Fenders faired into doors and body panels, found mainly in this group, are both more expensive to replace and more costly to repair.

Notes on Statistical Tables

In the accompanying table, generally comparable cars are grouped together, with listings in order of estimated over-all quality within each group. These ratings are necessarily tentative, based largely on design, statistical data, past performance, servicing and other factors. Some revisions may be necessary after CU's consultants have been able to make road tests for riding qualities and ease of handling, and other new data on performance becomes available.

In the tables, the over-all length (Col. 1) is important as it relates to parking, maneuvering and garaging of the cars. Subtracting the wheelbase (Col. 2) from the length gives an indication of whether the cars overhang excessively. The taxable horsepower (Col. 3) is useful (in some States) for licensing data only; it is no measure of actual horsepower.

The shipping weight (Col. 4) influences both the gear ratio (Col. 6) and the piston displacement (Col. 9), which together provide the power to handle the weight. These, in turn, determine the engine revolutions per mile (Col. 10) and the amount of gas mixture used per mile (Col. 11).

The so-called tire capacity (Col. 5) is the passenger or pay load, in pounds per four tires, which can safely be carried without damaging the tires. It is arrived at by deducting Col. 4 plus 150 pounds from the tires' rated carrying capacity. A numerically low axle ratio (Col. 6) is favorable to longer engine life and quiet operation. The power rating (Col. 7), as explained in the article, shows the maximum thrust or push, in pounds, that the car can give in high gear for each 1000 pounds of its weight (shipping weight plus 500 lb. average load), and the speed at which this maximum thrust is available. This depends on the weight and on the power designed into the car.

The compression ratio (Col. 8) shows how much the gas is compressed before firing; a high figure is favorable to economy. Piston displacement (Col. 9) is the engine's "breathing capacity"; with the engine revolutions per mile it determines the amount of gas mixture used per mile (Col. 11). A low figure here favors economy. The brake load (Col. 12) is obtained by dividing the loaded car weight (shipping weight plus 1000 pounds) by the brake area; the lower the figure, the longer the life of the brake lining is likely to be.

Column 13 indicates the relative repair costs. It is the time, computed from the latest "Automotive Digest Flat Rate Manual," which it would take a mechanic to perform 12 common repair operations. These are: engine tune-up; alignment of rods and replacement of piston rings; relining the pressure plate and adjusting the clutch; adjusting the brake; replacing kingpins and bearings or bushings (this item was not available for the Nash 600); checking, adjusting and correcting camber, caster and toe-in; replacing one rear spring; replacing mufflers; replacing door glass; replacing radiator grille; replacing one front fender; replacing ring gear and pinion. Materials are not included, but obviously quick and easy repair is an important factor.

For purposes of comparison, the 1942 delivered-at-factory price of a 4-door sedan (Col. 14) is given, next to the latest available OPA retail list price of a similar model (Col. 15). These prices were correct as of July 1946 for delivered-at-factory cars; they do not include dealer handling charges and some basic equipment. Additional accessories, frequently furnished with the car, cost extra. As we go to press, it seems certain that further price rises will be permitted soon.

PRICES AND GROUPINGS

In past years, cars have been grouped by CU, and reviewed, in terms of "factory delivered prices"—the price of the car, complete with bumpers and spare tire, at the factory. For this price, plus the cost of freight, the car could be obtained by the consumer. No accessories or equipment other than the standard minimum was included.

Such prices are virtually unobtainable at present (even the OPA minimums include all sorts of extras, though they do not include spare tires) and cars are rarely to be had with this minimum equipment. Accessories of all sorts come through on the cars and must be bought as part of the "package." In the tables, CU has listed together what it believes will be competitive models. The 1942 prices, which include Federal tax at the current rate, are shown (Col. 14) to indicate the increases that have taken place.

	1 OVER-ALL LENGTH (IN.)	2 WHEEL-BASE (IN.)	3 TAXABLE H. P.	4 SHIPPING WEIGHT (LB.)	5 TIRE CAPA-CITY (LB.)	6 GEAR RATIO (to 1)	7 POWER RATING (LB. @ MPH)	8 COMPRES-SION RATIO (to 1)	9 PISTON DIS-PLACE-MENT (CU. IN.)	10 ENGINE REVS. PER MILE	11 GAS MIX-TURE PER MILE (CU. FT.)	12 BRAKE LOAD (LB. PER SQ. IN.)	13 REPAIR TIME (HR.)	14 1942 PRICE AT FAC-TORY	15 JUNE 1946 OPA PRICE
GROUP 1															
LINCOLN 12, 66H: 12-cylinder engine with many FORD traits. Seating, vision excellent. Rides less well than cars having independent suspension. Reasonable economy with overdrive.	216	125	39.6	3980	250	4.22 3.11	172.5 @ 35 127 @ 47.2	7.2 with overdrive	295	3100 2285	265 195	27.3	47.5	$1795	$2057
CADILLAC 62: Engine same as Model 61; longer wheelbase. GM 1942 body shell with poor seating. CADILLAC 61 preferable. Note tire overload.	219.2	129	39.2	4253	—23	3.77 3.36	196 @ 35 173 @ 39	7.25 with Hydramatic	346	2765 2460	277 247	25.25	46	$1754	$2065
PACKARD SUPER 8, 2103: Same construction and body shell as Model 120 which is a better buy, since SUPER'S high power is valid only for exceptional motorists.	215.5	127	39.2	3990	240	3.92 2.95	222 @ 42.5 167 @ 55.5	6.85 with overdrive	356	2830 2160	292 223	24	45.6	$1739	$1995
GROUP 2															
CADILLAC 61: Excellent engine, requiring premium fuel and lots of it. Good chassis. GM 1941 body shell. A "Best Buy" in the luxury class with or without Hydramatic.	215.7	126	39.2	4145	85	3.77 3.36	200 @ 35 176 @ 39	7.25 with Hydramatic	346	2765 2460	277 247	24.75	46	$1647	$1900
CHRYSLER 8, C-39: Body shell same as CHRYSLER 6, DE SOTO, DODGE. The 6 a better buy unless you need extra power and luxury. Flat-rate costs high.	214.2	127.5	33.8	3940	290	3.91 3.36	207 @ 33 178 @ 39	6.7 with 4-speed transmission	323.5	2870 2460	269 230	26.1	49	$1485	$1731
BUICK SERIES 70: Very powerful and gas-hungry engine with valid utility for few drivers. GM 1942 body shell. "Acceptable," but not recommended.	217.5	129	37.8	4135	105	4.1	213 @ 32	6.6	320.2	3000	278	24.7	43.1	$1601	$1803
GROUP 3															
PACKARD 120, 2101: "Best Buy." Wide, low seats; high cowl; good head-room. Reasonable economy with overdrive. Well made. Moderate weight.	208.5	120	33.8	3575	295	4.1 3.1	207 @ 39 156 @ 51.6	6.85 with overdrive	282	3079 2325	251 190	26.6	44	$1341	$1655
OLDSMOBILE, SERIES 98: Longer wheelbase, but mechanically similar to OLDS 78 otherwise. Undesirable GM 1942 body. Better trim, but OLDS 78 a better buy.	216	127	33.8	3775	455	4.3 3.63	184 @ 38 155.5 @ 45	6.5 with Hydramatic	257.1	3150 2660	235 198	26.3	42.7	$1376	$1548
BUICK SERIES 50: See BUICK 40 for construction. GM 1942 body, low seats, high cowl, poor rear head-room. BUICK 40 preferable and a better buy.	212.5	124	30.63	3905	145	4.45	180 @ 37	6.3	248	3235	232	30.4	43.1	$1391	$1549
GROUP 4															
CHRYSLER 6, C-38: Little advantage over DE SOTO; comfortable seating, good vision, service more widely available are reasons for high rating.	208.3	121.5	28.36	3495	375	3.9 3.54	178 @ 24.5 161 @ 27	6.6 with 4-speed transmission	250.6	2930 2660	213 193	25.8	43.7	$1244	$1432

	1 OVER-ALL LENGTH (IN.)	2 WHEEL-BASE (IN.)	3 TAXABLE H. P.	4 SHIPPING WEIGHT (LB.)	5 TIRE CAPACITY (LB.)	6 GEAR RATIO (to 1)	7 POWER RATING (LB. @ MPH)	8 COMPRESSION RATIO (to 1)	9 PISTON DISPLACEMENT (CU. IN.)	10 ENGINE REVS. PER MILE	11 GAS MIXTURE PER MILE (CU. FT.)	12 BRAKE LOAD (LB. PER SQ. IN.)	13 REPAIR TIME (HR.)	14 1942 PRICE AT FACTORY	15 JUNE 1946 OPA PRICE
GROUP 4—*continued*															
HUDSON 8, 53, 54: 54 is a de-luxe model. Many good, unique features. Check for vision with high cowl. Service facilities limited. Low flat-rate costs.	207	121	28.8	3395	745	4.11 3.27	187 @ 31 149 @ 39	6.5 with	254 overdrive	3090 2455	227 181	30.5	37.8	$1254	$1460
PACKARD 6, 2100: Same chassis and body as Model 120. Engine revolutions per mile high for a "6" at this price; obtain overdrive or switch to Model 120.	208.5	120	29.4	3465	405	4.3 3.28	186 @ 37.2 142 @ 48.5	6.71 with	245 overdrive	3229 2470	229 175	27.1	42.7	$1286	$1596
STUDEBAKER COMMANDER 6: 1947 model all new except power plant. Same body shell as CHAMPION. Good vision; 58-in. seats. Data lacking; rating provisional.	*	119	26.35	*	*	4.09	*	6.5	226	3070	201	*	*	$1128	$1460
GROUP 5															
DE SOTO 6, S-11: Same body shell as CHRYSLER, DODGE. Compare with DODGE without 4-speed transmisison; to CHRYSLER with 4-speed. "Best Buy" in group.	207.3	121.5	28.36	3485	385	3.9 3.73	175 @ 24.5 160 @ 25.7	6.6 with	236.6 4-speed transmission	2930 2800	201 192	25.8	42.2	$1167	$1329
HUDSON 6, 51, 52: 52 is a de-luxe car. Many good, unique features. Rates below NASH 6 if its very high cowl interferes with driving. Limited service. Lowest flat-rate costs.	207	121	21.6	3150	360	4.11 3.27	168 @ 23.5 133.5 @ 29.5	6.5 with	212 overdrive	3066 2440	188 150	29.9	35	$1129	$1333
NASH AMBASSADOR 6, 4660: Many new refinements. Dependable overhead drive engine. Limited service. Good seating. Fairly high cowl bar. Flat rate costs high.	208.6	121	27.34	3360	510	4.1 3.20	197 @ 31 154 @ 40	6.8 with	234.8 overdrive	3080 2400	209 163	24.8	46.4	$1134	$1340
MERCURY 8, 69M: See text for comment. Very good vision for all. Riding qualities below standard. Best suited to high speed on open roads.	201.8	118	32.5	3270	600	3.54	155 @ 45	6.75	239.4	2660	184.5	26.4	43.6	$1133	$1349
GROUP 6															
PONTIAC 8, 28-LB: Durable engine; cast-iron pistons. GM 1941 body. 8-cylinder better than 6 in this class. A "Best Buy."	210.3	122	33.8	3465	585	4.3	180.5 @ 40.5	6.5	248.9	3130	225	28.1	41	$1144	$1297
BUICK SERIES 40: Engine basically very good; chassis mediocre. Objectionable double carburetor dropped. Preferable to OLDS with 3-speed transmission.	207.5	121	30.63	*	*	4.45	*	6.3	248	3235	232	*	43.1	$1229	$1329
OLDSMOBILE SERIES 78: GM 1941 body shell. Same chassis as OLDS 6 but more powerful. Rates ahead of BUICK if optional 4.1 ratio or Hydramatic installed.	213	125	33.8	3640	410	4.3 3.42	189 @ 38.5 150 @ 48	6.5 with	257.1 Hydramatic	3130 2490	233 185	25.6	42.7	$1196	$1376
PONTIAC 6, 26-LB: Same body, chassis as Model 28; 6-cylinder engine easier to maintain. Flat-rate costs low for group. Price low for group and body.	210.3	122	30.4	3405	645	4.3	177 @ 26.5	6.5	239.2	3130	217	27.75	38.3	$1118	$1270

* Data not available at time of publication.

	1 OVER-ALL LENGTH (IN.)	2 WHEEL-BASE (IN.)	3 TAXABLE H. P.	4 SHIPPING WEIGHT (LB.)	5 TIRE CAPACITY (LB.)	6 GEAR RATIO (to 1)	7 POWER RATING (LB. @ MPH)	8 COMPRESSION RATIO (to 1)	9 PISTON DISPLACEMENT (CU. IN.)	10 ENGINE REVS. PER MILE	11 GAS MIXTURE PER MILE (CU. FT.)	12 BRAKE LOAD (LB. PER SQ. IN.)	13 REPAIR TIME (HR.)	14 1942 PRICE AT FACTORY	15 JUNE 1946 OPA PRICE
GROUP 6—*continued*															
OLDSMOBILE SERIES 76: GM 1941 body shell. Heavier and longer than PONTIAC; simpler chassis than BUICK. If Hydramatic-equipped, rates above BUICK 40.	213	125	29.4	3528	522	4.3 3.63	175.5 @ 23 148.5 @ 27.5	6.5 with Hydramatic	238.1	3130 2640	216 182	28.3	41.7	$1153	$1323
GROUP 7															
PONTIAC 6, 25-LA: CHEVROLET body shell. Durable engine; moderate power, economy. See text on 6 vs. 8 engine. Tires too small. Flat rate costs low. A "Best Buy."	204.5	119	30.4	3330	180	4.1	177 @ 27.5	6.5	239.2	3059	212	27.25	38.3	$1062	$1198
DODGE D-24: Good CHRYSLER body at lowest price. Unsensational; good service and economy if not abused. Fluid drive overstressed, but of some value.	204.5	119.5	25.4	3229	281	3.9	171 @ 25	6.7	230.2	2910	194	24.4	40.7	$1058	$1277
PONTIAC 27-LA: Same body and chassis as Model 25, but with less economical 8-cylinder engine. Tires too small. Flat-rate costs medium.	204.5	119	33.8	3390	120	4.1	179.5 @ 41.2	6.5	248.9	3059	220	27.6	41	$1088	$1224
OLDSMOBILE SERIES 76: CHEVROLET body shell. Lowest price for Hydramatic transmission. Standard model slightly less desirable than PONTIAC LA series.	204	119	29.4	3350	160	4.1 3.42	180 @ 23 150 @ 28.5	6.5 with Hydramatic	238.1	3059 2550	211 176	27.2	41.7	$1088	$1238
UNCLASSIFIED															
KAISER SPECIAL: Data lacking. Rear-drive interim model. Similar to FRAZER except for trim and lower price.	203	123.5	26.3	*	*	4.27	*	7.3	226	3205	210	*	*	*	*
FRAZER: Data lacking. Conventional construction except for body with wide rear seat.	203	123.5	26.3	*	*	4.27	*	7.3	226	3205	210	*	*	*	*
SMALL & ECONOMY CARS															
CHEVROLET (see the REPORTS, May 1946)	197.8	116	29.4	3125	385	4.11 3.73	175 @ 23.5 159 @ 26	6.5 with optional axle	216.5	3066 2780	192 174	25.6	41.1	$ 907	$ 996
FORD V-8, 69A (see the REPORTS, May 1946)	198.2	114	32.5	3240	270	3.54	155 @ 45.5	6.75	239.4	2640	183	26.1	43.1	$ 943	$1085
FORD 6, 6GA (see the REPORTS, May 1946)	198.2	114	26	3215	295	3.78	163 @ 25	6.7	226	2820	184	26	41.8	$ 933	$1049
NASH 600, 4640 (see the REPORTS, July 1946)	199.6	112	23.4	2780	730	4.1 3.2	153 @ 31.4 119 @ 40	7 with overdrive	172.6	3059 2390	153 120	26.7	43.4	$ 968	$1191
PLYMOUTH P-15 (see the REPORTS, May 1946)	196.8	117	25.35	3060	450	3.9	167 @ 24.5	6.6	217.8	2910	183	25.7	38.9	$ 944	$1135
STUDEBAKER CHAMPION 6G (see the REPORTS, July 1946)	192.8	112	21.6	2707	223	4.1 3.2	164.5 @ 36.5 128 @ 46.5	6.5 with overdrive	169.6	3310 2580	163 127	25	39.4	$ 870	$1237
CROSLEY 4, CC-46 (see the REPORTS, July 1946)	145	80	10	1200	570	5.17	119 @ 35	7.5	44	5100	65	31.25 (800-lb. load)	*	*	$ 799

* Data not available at time of publication.

Portable Radios

Seven more portables tested reveal some added features, such as short wave, tone control and "rechargeable" batteries

CU's shoppers have been able to purchase seven more portable radios since tests of four portables were made for the June *Reports*, thus bringing to eleven the total of laboratory-tested portables from among which CU members can make their selection. The new batch includes a portable with short wave and tone control, one with a "recharging" feature, one costing less than $25 and one selling for nearly $90.

Some points brought out in the June *Reports* are worth repetition here:

1) Portable radios are not good buys except for those who really need a radio at a location where house current is not available.

2) The average portable radio does not give nearly as good performance as the average table model.

3) Portables are relatively expensive, both in initial cost and upkeep.

For ten hours of operation, the average table-model radio costs about 2¢, as compared with 35¢ for operating a portable for this period.

The most elaborate of the portables which has so far passed through CU's laboratory is the *Zenith* 8G005YT at $87.50. Whether or not this model is properly called a portable is open to question; actually it weighs 25 pounds, a heavy load for anyone.

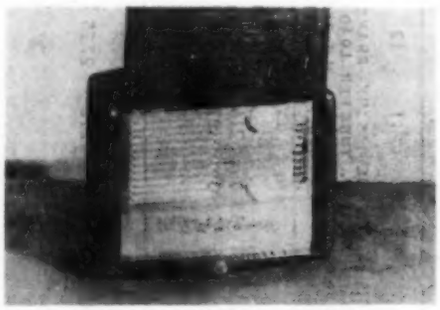
ZENITH 8G005YT: *A lot of radio; a lot of money*

This *Zenith* covers the short-waves by means of a series of five separate "spread bands." It is equipped with a tone control device consisting of four switches which can be set at any one of 16 different combinations. It has not one aerial, but four: one each for "normal" broadcast and short-wave listening, and one each for broadcast and short-wave listening conditions that are "difficult": in buildings which have steel frames, or for listening to weak or distant stations. The normal aerial reception is simple enough, but the instructions which must be followed under difficult conditions are, to say the least, complicated. Once you've followed them, however, reception is improved considerably.

AIRLINE: *"Best Buy" at the price*

Another innovation—though it was used on some portable radios before the war—is the battery "recharging" feature on the *Stewart-Warner*. Actually, the dry cells are not recharged, since this is possible only with storage batteries; rather, as the current is passed through the batteries in the reverse direction, they are given a new lease on life. With the *Stewart-Warner*, batteries can be "recharged" either when the radio is played on house current, or when it is plugged in without being played.

CU has not yet made final tests to determine how much additional life such rejuvenation will impart to the batteries, but reports in the technical literature indicate that the total life of recharged dry cells should be something like five times their normal life expectancy. Thus, the previously quoted figure of 3½¢ per hour operating cost would be reduced to something like 1¢ an hour for the *Stewart-Warner*, with an allowance for the electricity used in recharging.



GAROD: *Midway between portable and personal*

Whether or not the batteries on a portable radio are "rechargeable," it has been definitely established that any battery will last longer if it is used intermittently rather than in steady operation. Thus, if a portable radio were played on batteries for two hours a day, the batteries might last for a total of 90 hours of playing time; if the radio were used only one hour out of 24, the batteries might give, say, 120 hours of operation; with only a half hour daily of battery operation, the usable life of the battery would be even longer. There is a limit to such life-extension, however; a gradual deterioration takes place in dry cells even when they are not used at all, and this factor of "shelf life" combines with playing time to limit the battery's total life span. But since batteries used for short, intermittent periods unquestionably deliver a longer total operating time than those which are used more frequently and for longer periods, it is wise to use three-way portable radios on house current whenever this is possible.

(As mentioned in the June *Reports*, tests made by CU in 1941 showed that the *Eveready Minimax* was at that time the best of the generally available radio batteries on the market. Though no later tests have been made, there is reason to believe that the 1941 results are still valid.)

A second novel feature of the

ZENITH 5G001Y: *Poor sensitivity.*

Advance Note on FM Radios

Tests on three console radios having FM bands are, as we go to press, far enough advanced to provide the following preliminary information for CU readers who are eager to have FM sets at the earliest possible moment. A final detailed report on these radios will be published in a forthcoming issue.

Stromberg Carlson Model 1121-LW. $200 in Zone I. Both FM bands included. Appeared to have high fidelity on FM, with adequate sensitivity.

Zenith Model 8H061. $119.95 in Zone I. Both FM bands included. Lacked high fidelity because of inadequate treble response. Easy to tune because of high sensitivity.

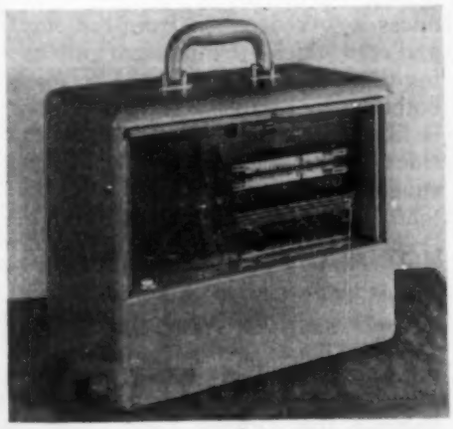
Philco Model 46-480. $133.85 in Zone I. Had only the new (100 mc) FM band. Relatively poor tone; low sensitivity. Will probably be rated "Not Acceptable" because of these and other defects.

Stewart-Warner is a small neon light which blinks to indicate when the radio is in operation. The blinker is so connected that when the blinking slows down below a specified rate, it serves as a warning that the battery is due to be recharged or replaced.

It is unfortunate that, despite these good features, the *Stewart-Warner* had to be rated "Not Acceptable" because its sensitivity was so inadequate.

Only one exception has been found so far to the $35 and up—mostly considerably up—postwar price level of portable radios. This was Montgomery Ward's *Airline*, sold at $24.95 plus shipping charges. While the *Airline* was rated last among the "Acceptable" portables, it was at least "Acceptable" in all important respects, and, price considered, the best buy among the portables tested.

Even at the OPA price levels, the current crop of portables showed substantial increases over prewar prices. When CU reported on 20 portables in July 1941, the range of list prices was $19.95 to $44.95, and discounts of as much as 40% were available on many brands. Needless to say, no such discounts are available now, and a $24.95 portable radio amounts to a bargain.



PILOT: *Poor sensitivity.*

MOTOROLA: *Very poor tone.*

Prices quoted in the ratings below are OPA Zone I prices in effect at the time the samples were purchased. Prices are without batteries unless stated otherwise.

BEST BUY

The following radio was judged to offer the best value among the portable radios tested:

Airline Cat. No.—1051A. (Montgomery Ward). $24.95 plus postage. Five tubes including rectifier. Tan and brown leatherette case (10"h. x 14"w. x 6"dp.). Weight 14 lb. Poor tone; good volume; low sensitivity; fair interference rejection; practically no automatic volume control. No signal to indicate when radio was turned on. Fool-proof plug device for changing from battery to house current. Uneconomical single battery pack. Slight shock hazard but no short-circuit hazard when operating from house current.

ACCEPTABLE

(In estimated order of over-all quality)

Zenith 8G005YT. (Zenith Radio Corp., Chicago). $87.50. Seven tubes including rectifier. Black leatherette case with brass fittings (11"h. x 17"w. x 8"dp.). Weight 25 lb. Good tone; good volume; fairly satisfactory sensitivity; fairly good interference rejection; poor automatic volume control. Red spot was supposed to show when set was turned on, but mechanism appeared to be defective in that the red spot did not appear on several occasions during tests. Fool-proof plug device for changing from battery to house current. Uneconomical single battery pack. Slight shock hazard but no short-circuit hazard when operating on house current. This was the only portable tested which had a tone control. Had 5 short wave spread bands covering the 16, 19, 25, 31 and 49 meter bands. Equipped with two extra antennas to raise sensitivity.

Philco 46-350. $45.95. (see June *Reports*).

CONTINUED NEXT PAGE

STEWART-WARNER: *"Rechargeable," but poor.*

Sentinel 285-P. $39.95. (see June *Reports*).
Emerson 505. $35.90. (see June *Reports*).
Airline—1051A (see "Best Buy").

NOT ACCEPTABLE

The following radios (listed in alphabetical order) were judged to be "Not Acceptable" for the reasons stated:

Garod 5D-2. (Garod Radio Corp., Brooklyn). $39.95. Very poor tone and very low sensitivity. Sample tested had tuning range far short of high end of broadcast band. Dial poorly calibrated. Poor test results might have been due to poor alignment of the set at the factory. Although this radio was between the average portable and personal radio in size (6¼" h. x 8¾" w. x 4½" dp.), it had the operating expense of the personal class of radios (approximately $1.20 for 10 hours).

Motorola 65L11. (Galvin Manufacturing Corp.). $43. Very poor tone. The sibilant reproduction of this set was so bad that it was difficult to understand speech.

Olympic 6-606. (see June *Reports*). Although this radio was rated "Acceptable" in the June *Reports*, reconsideration of its merits and demerits as compared with other portables now available warranted a "Not Acceptable" rating because of very low sensitivity.

Pilot T-286. (Pilot Radio Corp., Long Island City, N. Y.). $64.25 including batteries. Very low sensitivity.

Stewart-Warner 9007-F. (Stewart-Warner Corp., Chicago, Ill.). $42. Very low sensitivity. Sample tested had tuning range far short of high end of the broadcast band. Dial very poorly calibrated. Poor test results might have been due to poor alignment of the set at the factory.

Zenith 6G001Y. (Zenith Radio Corp., Chicago). $42.50. Very low sensitivity.

POLAROIDS

Optical examination of these "glare-proof" glasses, goggles and visors shows serious defects which interfere with their otherwise good qualities

In the past months many thousands of consumers have been persuaded to buy *Polaroid* sunglasses or goggles to protect their eyes from glare. And many more have paid out good dollars for a gadget called the *Polaroid Day Driving Visor* which is supposed to "eliminate sunglare from roads."

It is CU's opinion, after examinations and laboratory tests, that neither sunglasses, goggles, nor visor are good buys. On the contrary, for long continued use, all are "Not Acceptable."

GLARE ELIMINATION

The claim the *Polaroids* eliminate glare is true to only a limited extent. *Polaroids* do filter out some, but by no means all, bright reflections; whether or not they do so depends on the angle at which the light is reflected. The fact that they will filter out light which is reflected at a sharp angle is sometimes helpful; and if this characteristic were added to otherwise satisfactory sunglasses, it would be all to the good. Unfortunately, the *Polaroids* are not otherwise satisfactory.

As CU has pointed out in the past, if sunglasses are to be worn only occasionally and for brief periods, then their optical characteristics don't matter much. But if they are to be worn a great deal—as so many wear them during the Summer months — then their optical properties become important. For such use, the glasses should not act like prisms, making objects appear to one side or above or below their actual position; they should not have a lens effect, making objects viewed appear too large or too small; nor should they introduce distortions of any kind. Unless the glass is ground and polished so as to eliminate such faults almost completely, the wearer of the glasses may suffer eyestrain and headache.

Laboratory tests made for CU on eight pairs of *Polaroid* sunglasses and on six pairs of *Polaroid Sportglas* goggles showed that all were passable —though some just barely so—with respect to prism effect and lens power. Without exception, however, all of the 28 separate glasses and screens tested (two "lenses" on each of 14 pairs) showed physical irregularities which have no place in good sunglasses. These irregularities make the *Polaroid* glasses and goggles "Not Acceptable" except for occasional use.

The following are typical of the comments contained in the laboratory report on the different *Polaroids*: "Considerable horizontal distortion through center," "vertical distortion at extreme right and left," "horizontal distortion from center to extreme right."

The *Polaroid* glasses have another fault which seems especially undesirable in glasses supposed to eliminate glare. Unlike ordinary eyeglasses and most sunglasses, the *Polaroid* lenses are flat rather than curved. Because of this, they reflect light from beside and behind the wearer into his eyes; and this is likely to be much more annoying than the kind of glare the *Polaroids* filter out.

The *Polaroid* goggles, which are not glass but plastic, are curved, and they also have the advantage of covering a larger area before the eyes than most sunglasses. But besides causing severe distortion, they are easily scratched, and their usefulness for this reason would in most cases probably be short-lived. The goggles also have a wide bar clear across the top from ear piece to ear piece, which some users find very annoying.

The *Polaroid* automobile visor is a hindrance and not a help to safe driving. Most glare encountered on the highway — for example, from the windshields and bright metal parts of other cars—is not cut out by the *Polaroid* screen. More important, however, is the fact that the visor in effect places a dark area in front of the driver and cuts down visibility in the line of vision. With sunglasses, the whole field of view of the eyes is covered, and the eye adapts to the decreased light. Because the visor covers only a small part of the field of view, the normal shifting of the driver's gaze from front to side imposes on the eyes the strain of constantly readapting to different brightnesses. Furthermore, the visor introduces new reflections from the sides and rear which are much more annoying than "road glare." If the driver is bothered by excessive glare, the visor is likely to make the glare from the sides seem worse. A pair of ordinary sunglasses will do a much better job than the visor.

NOT ACCEPTABLE

(For the reasons stated above)

Polaroid Sunglasses (American Optical Co., NYC.) $1.95.
Polaroid Sportglas (American Optical Co.) $1.69.
Polaroid Day Driving Visor (Polaroid Corp., Cambridge, Mass.) $4.95.

GOLF BALLS

"Bounce" varies from brand to brand, and synthetics are inferior to natural rubber, tests of 32 brands show

Provided his ball is "live" and "true," the golfer who muffs a stroke can blame his bad performance only on the wind, the sun, the humidity, the turf, the noise, his club, a distracting movement, and a few dozen other minor calamities. But, regardless of other alibis, the ball does have much to do with performance on the links. The better the golfer, the more seriously is his play affected by the quality of the ball, particularly in long drives and putts.

The elasticity or bounce of a ball is a measure of its liveness; an X-ray photograph can show its tendency to go off true. Both these tests, plus a durability test on the balls' covers, were used by CU in evaluating 32 brands of golf balls.

The prewar golf ball consisted of a great many windings of natural rubber similar to thin rubber bands around a central core. This was then covered with a substance consisting mostly of balata gum, and the ball was completed. The rubber shortage during the war was responsible for the use of three other processes in the golf ball industry: reprocessing or rebuilding of old balls, washing of used balls, and the use of synthetic rubber for the production of new balls. There were many lamentations regarding these *ersatz* products, but they continue to be sold still, even though natural rubber balls are available again. CU's tests included nine brands of balls said to be made from natural rubber, 16 brands of synthetic rubber balls, and seven reprocessed or rewashed brands. Three to six samples of each brand were tested.

All of the balls labeled as being made of synthetic rubber performed in a manner characteristic of this type of ball. The natural rubber balls were not so labeled, but they were displayed in the stores and sold as natural rubber. One of the "natural rubber" brands—*Tommy Armour Championship*—responded to physical tests in the same manner as the synthetic rubber balls, however.

Test results indicate that golfers were indeed right in their scorn for the synthetic product. For bounce tests showed that under the same test conditions, the average natural rubber ball had 17% greater bounce than the average synthetic ball. Reprocessed and washed balls were highly variable, their quality depending on how good the balls had been to start with, what abuses they had undergone in the course of their previous incarnation, and—in the case of reprocessed balls—how thorough a job had been done in remaking them. They are listed separatedly in the ratings; because of their variability, their purchase is not recommended since good new balls are now available.

HOW CU TESTED

To determine the "liveness" of the balls, each ball was dropped mechanically to a fixed steel plate from a height such that its bounce would be 33 inches. In the balls sold as natural rubber the average height required to reach this rebound was 46.4 inches; the drops required for these balls ranged from 44.7 inches to 48.1 inches, with the exception of the previously-mentioned *Worthington Tommy Armour*, which had to be dropped from a height of 52.1 inches to reach the required rebound. Among the balls labeled "synthetic rubber," the average drop for a 33-inch rebound was 54.8 inches, with the range being from 51.5 to 59.8 inches.

A "GUILLOTINE" *was used to test the covers' strength. Inset shows device which holds ball in guillotine and a ball with cover broken from the impact.*

To determine "trueness," the balls were measured for outside diameter by means of calipers, and were examined internally by means of X-ray photographs. Most of the balls were reasonably well-balanced, but in a few the cores were elliptical or otherwise off-balance. All balls were within the standards for size and weight set by the U.S. Golf Association.

The durability of the covers was measured by means of a 23-pound guillotine blade having a rounded edge. The blade was dropped on the balls from increasing heights, until it broke the ball cover. Although there were differences in the impact required before the covers would break, these were not considered significant, since the weakest cover was judged adequate.

In the ratings below, the balls are listed in order of bounce within each type. The figures in parentheses indicate the average height required for the different brands to rebound to a height of 33 inches. (The lower the figure, the better the bounce.) Note comments for off-balance balls.

Natural Rubber

ACCEPTABLE

Spalding Air Flite (A. G. Spalding & Bros., NYC). $1. (44.7 in.)

Wright & Ditson Eagle (Reach, Wright and Ditson, NYC). 85¢ (45.5 in.)

U.S. Royal (U.S. Rubber Co., NYC). 85¢. (45.7 in.)

Wilson K-28 (Wilson Sporting Goods Co., Chicago). 85¢. (45.8 in.)

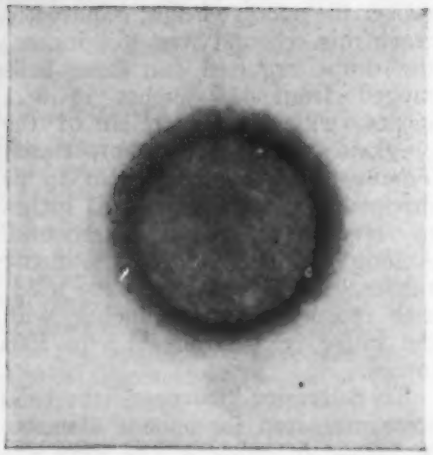
Spalding Kro-Flite (A. G. Spalding) $1. 46.3 in.) One of three balls tested had off-balance core.

Dunlop Gold Cup (Dunlop Tire & Rubber Corp., NYC). 85¢. (47.3 in.)

Frank Turnesa (Golf Products Corp., NYC). 85¢. (47.3 in.) Two of three balls tested had off-balance cores.

Spalding Top-Flite (A. G. Spalding), 85¢. (48.1 in.) One of three balls tested had off-balance core.

Worthington Tommy Armour (Worth-



X-RAY PHOTOGRAPH *of a ball having a well-rounded core. Contrast with picture below.*

ington Ball Co., Elyria, Ohio). 85¢. (52.1 in.) Sold as natural rubber, but bounce comparable to synthetic rubber balls.

Synthetic Rubber

ACCEPTABLE

U.S. Royal Three Star (U.S. Rubber Co.). 85¢. (51.5 in.) One of three balls tested had off-balance core.

Wright & Ditson Gold Star (Reach, Wright and Ditson). 85¢. (51.5 in.).

Wilson K-32 (Wilson Sporting Goods Co.). 75¢. (52.4 in.) One of six balls tested had off-balance core.

Wilson Bulls-Eye (Wilson Sporting Goods Co.). 85¢. (52.7 in.)

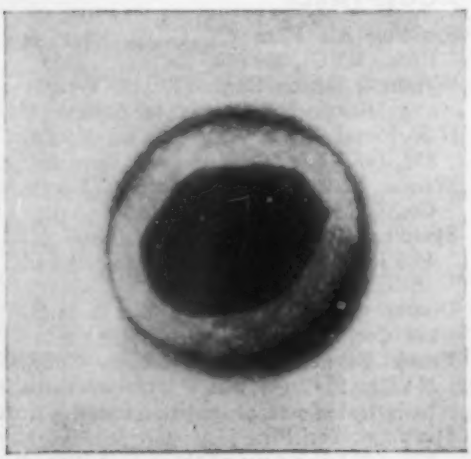
Super Colonel Jack Jolly (manufacturer not known). 85¢. (53 in.)

U.S. Arrow (Worthington Ball Co.). 75¢. (53 in.)

Spalding Autograph (A. G. Spalding). 85¢. (53 in.)

U.S. Royal True Blue (U.S. Rubber Co.). 85¢. (53.2 in.)

Spalding Gold Medal (A. G. Spalding).



AN UNBALANCED CORE, *as seen in an X-ray picture of a golf ball.*

85¢. (53.7 in.) One of three balls tested had off-balance core.

Walter Hagen 288 (manufacturer not known). 85¢. (55 in.)

Dunlop MaxFli (Dunlop Tire and Rubber Co.). 85¢. (55.1 in.)

Hagen Mallard (manufacturer not known). 75¢. (55.7 in.)

Dunlop Gold Cup (Dunlop Tire & Rubber Co.). 85¢. (56.4 in.) One of three balls tested had off-balance core.

Worthington King (Worthington Ball Co.). 85¢. (57.3 in.) Two of six balls tested had off-balance cores.

Kroydon Blue Star (Kroydon Co., Maplewood, N.J.). 85¢. (58 in.) One of three balls tested had off-balance core.

Worthington Marvel (Worthington Ball Co.). 85¢. (57.3 in.) One of three balls tested had off-balance core.

Re-Used Balls

VARIABLE

The following balls were re-processed, re-built or washed, as indicated. While individual samples sometimes gave excellent performance, such balls are highly variable in quality, and are not generally recommended except possibly as practice balls. They are listed alphabetically.

Spalding Bomber (A. G. Spalding). 50¢. (48.5 in.) Reprocessed.

Spalding Kro-Flite (A. G. Spalding). 85¢. (52.3 in.) Washed.

Spalding Recruit (A. G. Spalding). 35¢. (48.3 in.) Reprocessed. One of three balls tested had off-balance core.

Spalding War-Flite (A. G. Spalding). 75¢. (51.3 in.) Reprocessed. One of six balls tested had off-balance core.

Super Deluxe (Great Lakes Golf Ball Co., Chicago). 85¢. (54.2 in.) Rebuilt. One of three balls tested had off-balance core.

Titleist (Acushnet Process Co., NYC). 85¢. (49.7 in.) Washed.

U.S. Royal Three Star (U.S. Rubber Co.). 65¢. (53 in.) Reprocessed.

Lemon Juice

Tests of 12 brands show 5 "Not Acceptable"

Five of the twelve brands of canned lemon juice (four samples of each brand) tested for CU by graders in the U. S. Department of Agriculture were judged "Substandard" because they failed to meet government standards. Color, flavor, absence of defects (such as skin, seeds, membrane or core), density (measured in degrees Brix) and citric acid content were the attributes judged or measured by the graders in making their estimates.

In most parts of the country, canned lemon juice is an economical and practical way of using lemons for most of the year, but it should be remembered that, once opened, the juice is perishable and should be kept under refrigeration. If it is to be stored for more than a day or two, it is advisable to transfer the juice from the can to an airtight bottle, as oxidation and possible interaction of the acid with the can may give the juice off-flavors.

Ratings are in order of quality in the "Acceptable" group; figures in parentheses represent average cost per ounce.

ACCEPTABLE

GRADE A

M.C.P. (Mutual Citrus Prod. Co., Anaheim, Calif.). 9¢ for 7¾ oz. (1.2¢).

S.S. Pierce Red Label (S.S. Pierce Co., Boston). 10¢ for 5½ oz. (1.8¢).

Treesweet (Treesweet Prod. Co., Santa Ana, Calif.). 14¢ for 5½ oz. (3¢).

Real Gold (Mutual Orange Distrib., Redland, Calif.). 8¢ for 5½ oz. (1.5¢).

Gilt Edge (Chula Vista Mutual Lemon Assn., Chula Vista, Calif.). 15¢ for 7½ oz. (2¢).

GRADE C

Glenwood (American Stores Co., Philadelphia). 9¢ for 5½ oz. (1.6¢). Grade C because of defects.

1200 Drop-O-Lemon (Catalina Citrus Co., Anaheim, Calif.). 19¢ for 2 oz. (9.3¢). Grade C because of color and flavor.

NOT ACCEPTABLE

Unless otherwise indicated, all samples of the following brands were found to be Substandard, each for the reasons given:

ReaLemon (Puritan Fruit Prod. Co., Chicago). 28¢ for 16 oz. (1.8¢). Two of three samples Substandard because of excessive defects.

Monarch (Reid, Murdoch & Co., Chicago). 24¢ for 8 oz. (3¢). Substandard color and flavor.

Milani's (Louis Milani Foods, Chicago). 15¢ for 6 oz. (2.5¢). Substandard color and flavor; excessive defects; density off-grade.

Walter's Cali-4-nia (McCarthy Fruit Prod. Co., Oakland, Calif.). 29¢ for 12 oz. (2.4¢). Substandard color and defects.

Essence of Lemon Sour (Iarin-Oliver Co., NYC). 35¢ for 4 oz. A concentrated essence, to be made up with water to one quart. Cost per oz. in this dilution, 1.1¢. Substandard color.

DEPILATORIES

Many types are offered on the market, but the perfect hair remover is yet to be found. CU gives ratings of 32 brands, and discusses the problems and methods of hair removal

There is no safe, simple, painless way in which hair can be removed permanently from the legs, face or underarms. But there are many ways of removing hair temporarily, from shaving it off to dissolving it with chemicals. Shaving is the simplest means, but since many women prefer other methods, CU reports here on tests of 32 brands of various types of hair removers.

CHEMICAL DEPILATORIES

Chemical depilatories—the most commonly used type—act by dissolving the hair. To do this, they must be strongly alkaline and must have what the chemists call a "strong reducing action." This combination, unfortunately, does not act selectively on hair alone; because skin is similar to hair in chemical composition, the compounds set to work on the skin as well as the hair, and unless great care is employed the skin around the hair can become irritated and inflamed. Most persons can use chemical depilatories safely for the removal of hair from the legs, though there are some with hypersensitive skins who cannot use them at all. Chemical depilatories should never be used on the face or the armpits, or on broken or abraded skin.

The sulfides of barium, calcium strontium and sodium are the most commonly employed ingredients in chemical depilatories. All of them are characterized by a "rotten-egg" odor, no matter how strongly they are perfumed.

Sodium sulfide, the substance most frequently found in liquid depilatories, is harsher in its action than are the other sulfides. Because of this, because of the fact that the action of a liquid is rather difficult to localize, and also because liquid sulfides are less stable than other forms both in storage and in use, CU rated "Not Acceptable" the two liquid depilatories tested: *De Miracle* and *Zip Lotion*.

The paste and powder depilatories are similar in their action, except that pastes come ready for use, whereas the use of powders requires first the smelly task of mixing powder with water to make a paste. The word "cream" is used on some depilatory labels to denote pastes, apparently with the thought that "cream" has a more pleasant connotation. Actually, it is a misnomer; all four of the sulfide pastes tested were simply that.

CU has rated sulfide pastes and sulfide powders (eight powders were tested) "Acceptable," provided they are used with the proper precautionary measures. The various sulfides are similar in action; barium sulfide is highly toxic, but the consensus is that it is no more dangerous to use than others, provided necessary precautions are followed.

A newer type of chemical depilatory contains calcium thioglycollate rather than a sulfide as its active ingredient. These are somewhat milder in their action than the sulfide depilatories, and medical authorities believe that they are less likely to cause dermatitis than the sulfides. The thioglycollates have the further advantage of lacking the sulfides' disagreeable odor—although their own odor is almost as unpleasant. Hair removal with the thioglycollate pastes takes seven to fifteen minutes, as compared with five to ten minutes for the sulfides.

The three thioglycollate pastes tested—*Nair*, *Sleek* and *Imra*—were rated "Acceptable," and were considered somewhat superior to the sulfides.

All chemical depilatories act by dissolving the hair at the mouth of the hair follicle, which is slightly below the skin surface. Because of this, visible regrowth of hair takes somewhat longer than after shaving, which slices off the hair just at the surface.

Chemical depilatories were tested by noting their effect on the hair and skin of white mice. When they were applied in accordance with instructions, differences in depilating efficiency were negligible. Depilatories were examined also for odor, uniformity, consistency, stability and adequacy of label warnings and directions. Comments on these are given in the ratings. Cost comparisons are made in terms of cost per cubic inch.

PRECAUTIONS

For maximum safety and efficacy, certain precautions should be observed in the use of chemical depilatories. The following procedure is suggested:

1. If you have never used a depilatory of this type, try a "patch test" to find out whether your skin is hypersensitive. Follow instructions for use, but limit the application to a square inch or so. If a rash or itchiness develops within 24 hours, do not use the product.

2. When opening the container or squeezing the tube, "point" it away from your eyes. Never use a chemical depilatory on the face.

CONTINUED NEXT PAGE

DEPILATORIES *come in an assortment of types. Here are shown some typical examples including abrasive stone and pad; thioglycollate paste; sulfide paste, powder and liquid; wax.*

3. Apply the depilatory in a thin layer (about the thickness of a dime), using a wooden applicator. Do not allow the paste to dry on the skin; if necessary, keep it moistened with water.

4. Leave the depilatory on the skin no longer than is necessary to remove the hair. Sulfide depilatories should be left on for no more than 10 minutes; thioglycollates for no more than 15 minutes. Half the maximum time is sufficient for average hair growth.

5. When the time is up, wash off the paste and the hair with plenty of cold or tepid water. Do not rub the treated area, and do not use soap or a deodorant on it immediately afterward. You may use talcum powder or cold cream.

6. Do not use a depilatory more frequently than once in two weeks.

WAX EPILATORS

If you have ever had adhesive tape stuck on a hairy portion of your arm or leg, and then have tried to remove it without the help of a solvent, you know how it feels to use a wax-type depilatory. Why women who appear to be otherwise perfectly normal subject themselves to such medieval torture when the same thing can be accomplished quite painlessly is something of a mystery. For, no matter how deeply the pain seems to strike, wax epilation is no more permanent than are other methods; it does not pull out the hair by the roots.

Actually, pulling the hair out with wax amounts to tweezing on a large scale. When the hardened wax is pulled off the skin, the hairs that are stuck in it break off at their weakest point, just below the surface of the skin.

Three of the five brands of waxes tested were mixtures which had to be warmed to make them liquid. The other two—*Zip Facial Hair Remover* and *Daw-Sonata Cream Wax* were sold in semi-plastic form, and required no heating before application. This is, in itself, an advantage, in that it obviates the possibility of a skin burn from over-heated wax. But even more important, these products were water-soluble, so that if the user's courage should desert her before she finishes the process, she can simply wash off what she hasn't the courage to pull off.

CU rates wax-type depilatories "Acceptable" in that they will do the job—but it does not recommend them.

ABRASIVES

The removal of hair with abrasives, a primitive precursor to shaving, was long ago discarded by men because it was so inefficient and tedious. But abrasives are still being widely sold to women as a method of hair removal. They are still inefficient and tedious. They still take off a layer of skin along with the hair.

Of the products on the market—ten were examined by CU—the only important quality difference appeared to be in the fineness of the abrasive. This varied from very fine, as in *Venida Magic Block*, to coarse, as in *Lechler's Velva-Tize*. Since abrasives do not go below the skin surface, visible regrowth of hair is just as rapid as with shaving.

As in the past, CU still recommends that women use the razor blade to remove excessive hair. Shaving, despite popular belief to the contrary, neither coarsens hair nor makes it grow more rapidly.

PERMANENT METHODS

There are three methods for permanent hair removal: X-ray, electrolysis and diathermy.

X-ray treatments are invariably dangerous; the hazard involved is very great and cannot justify the risk.

In both electrolysis and diathermy, an electric needle is inserted along each individual hair shaft, past the hair follicle, to the root of the hair. In electrolysis, the root is destroyed by a chemical action, which takes one to two minutes for each hair; in diathermy the destruction is accomplished by the generation of heat, and the action is instantaneous.

When CU last reported on hair removal (October, 1941), the consensus among experts was that electrolysis was the safer method. Improvements which have been made during the last five years, however, appear to give diathermy a slight edge. Its relative speed—about 200 hairs can be removed in an hour by a skilled operator—is an added advantage.

Neither electrolysis nor diathermy is to be undertaken lightly, however. There are, in the first place, certain medical contraindications (diabetes and certain focal infections are two of them), which make it imperative that a doctor be consulted before a course of treatments is undertaken. Even in the hands of a skilled operator, the treatment is long, painful and expensive, if any considerable number of hairs is to be removed. If the operator is not highly skilled, scarring and infections may occur, and the operator may miss the root of the hair, so that the job may have to be repeated.

The use of multiple needles in electrolysis—though it speeds up the process—is never recommended by dermatologists. With this method, there is increased likelihood of hair regrowth and scarring.

If you feel the need of permanent removal of hair on some small area, consult a dermatologist and follow his advice.

RATINGS

The ratings presented below are based on tests and examinations as discussed previously, and with the reservations expressed. As a "Best Buy" in hair removal, CU recommends shaving. For very fine hair growth, satisfactory results can often be achieved by bleaching hair with ordinary hydrogen peroxide, to which a drop of household ammonia has been added just before use.

Depilatories are rated "Acceptable" only on the condition that they be used with proper precautionary measures. For this reason it is best to buy brands labeled with adequate directions and warnings. "Best Buys" are those near the top of the list in each "Acceptable" group.

Ratings are in order of increasing cost within each group. The 20% Federal cosmetics tax is not included in the prices.

Thioglycollate Pastes

ACCEPTABLE

Figures in parentheses represent cost per cubic inch of paste.

Nair (Carter Products Inc., NYC). 49¢ for 4 oz. (7¢). Slight separation of water from solid material, but easily mixed into homogeneous paste. Active ingredient, calcium thioglycollate. Available nationally.

Sleek (Elizabeth Arden, NYC). $1 for 5 oz. (12¢). Active ingredient, calcium thioglycollate. Available nationally.

Imra (Artra Cosmetics, Inc., Bloomfield, N.J.). 65¢ for 2½ oz. (19¢). Active ingredient, calcium thioglycollate.

Sulfide Pastes

ACCEPTABLE

Figures in parentheses represent cost per cubic inch of paste.

Zip Cream Hair Remover (Madame Berthé, NYC). 49¢ for 4½ oz. (8¢). Active ingredient, calcium sulfide (not stated on label). Available nationally.

X-Bazin (Hall & Ruckel, Inc., NYC). 48¢ for 4 oz. (9¢). Active ingredient, barium sulfide. Available nationally.

Evans' (George B. Evans Laboratories, Inc., Philadelphia). 31¢ for 1¾ oz. (12¢). Active ingredient, barium sulfide. Available nationally.

Neet (Affiliated Products, Inc., Jersey City). 49¢ for 2½ oz. (15¢). Active ingredient, calcium sulfide (not stated on label). Available nationally.

Sulfide Powders

ACCEPTABLE

Figures in parentheses represent approximate cost per cubic inch of material after the addition of sufficient water to make a paste.

Zip (Madame Berthé). 55¢ for 2 oz. (8¢). Active ingredient, barium sulfide (not stated on label). Available nationally.

De Wans (Associated Distributors, Inc., Chicago). 50¢ for 2 oz. (12¢). Active ingredient, strontium sulfide. Available nationally.

Colonial Dames (Colonial Dames Co., Hollywood). 50¢ for 1½ oz. (12¢). Active ingredient, barium sulfide. Available in West.

Biff (E. Burnham Laboratories, Inc., Chicago). 75¢ for 2½ oz. (13¢). Active ingredient, strontium sulfide (not stated on label). Spotty national distribution.

Bonney (Bonney, Inc., Chicago). 60¢ for 2 oz. (13¢). No precautionary warning given. Active ingredient, barium sulfide.

X-Bazin (Hall & Ruckel, Inc.). 49¢ for 1⅛ oz. (18¢). Active ingredient, barium sulfide. Available nationally.

Le Fevres Mando (Josephine Le Fevre Co., Philadelphia). 94¢ for 1¾ oz. (23¢). No precautionary warning given. Active ingredient, barium sulfide (not stated on label).

Evans' (George B. Evans Laboratories, Inc.). 64¢ for 1⅛ oz. (28¢). Small bowl for mixing with water included. Active ingredient, barium sulfide. Available nationally.

Liquid Sulfides

NOT ACCEPTABLE

For the reasons stated; see text.

Figures in parentheses represent cost per cubic inch of liquid.

Zip Hair Removing Lotion (Madame Berthé). 85¢ for 6 fl. oz. (8¢). No precautionary warning given. Active ingredient, sodium sulfide (not stated on label).

De Miracle (Consolidated Royal Chemical Corp., Chicago). 36¢ for ½ fl. oz. (40¢). Active ingredient, sodium sulfide.

Waxes

ACCEPTABLE

Figures in parentheses represent cost per ounce of material.

Zip Facial Hair Remover (Madame Berthé). 47¢ for 4 oz. (12¢). No prior heating required for use. Residue easily washed away with water. Available nationally.

Zip Epilator (Madame Berthé). 84¢ for 3½ oz. (24¢). Required melting before application. Available nationally.

Ardena Electra Wax Depilatory (Elizabeth Arden). $2 for 6 tablets, each 13/16 oz. (41¢). Required melting before application. Available nationally.

Daw-Sonata (John Munro, NYC). 96¢ for 2 oz. (48¢). No prior heating required for use. Residue easily washed away with water. Available nationally.

Dorothy Gray Depilatory Wax (Dorothy Gray, Ltd., NYC). $2.50 for 3¼ oz. (77¢). Required melting before application. Supplied in a metal container for heating material. Available nationally.

Abrasives

ACCEPTABLE

PADS

Figures in parentheses represent cost per square inch of pad.

Tad Miracle Mitt. 10¢ for 1 double mitt (0.3¢).

Smoothee (Reaco Inc., NYC). 10¢ for 4 pads with holder (0.3¢).

E-Z Hair Removing Glove (Plat-Num Laboratories, NYC). 10¢ for 1 glove (0.5¢). Available nationally.

Baby Touch Hair Remover (Baby Touch Co., St. Louis). 25¢ for 1 pad (1.8¢). Available nationally.

Minute Hair Remover (Helena Rubinstein, Inc., NYC). $1 for 1 applicator and 5 double pads (2.3¢). Available nationally.

Venida Magic Block (Reiser Co., NYC). 25¢ for 1 pad wrapped around wooden block (2.5¢). Available nationally.

STONES

Bellin's Wonderstoen for Arms and Legs (Bellin's Wonderstoen Co., NYC). $3 for 1 stone. Available nationally.

Bellin's Wonderstoen for Face (Bellin's Wonderstoen Co.). $1.25 for 1 stone. Available nationally.

Lechler's Velva-Tize for Facial Use (Lechler Laboratories, NYC). $1 for 1 stone. Available nationally.

Lechler's Velvatize for Special Use (House of Lechler). $1 for 1 stone. Quite coarse. Note difference in name of product and manufacturer from product listed above. Available nationally.

Watch for....

The following projects, among others are under way in CU's laboratories, with reports on them scheduled to appear in forthcoming issues of the Reports:

Electric and Gas Refrigerators
Electric Washing Machines
Radios with Frequency Modulation (FM)
Automobile Storage Batteries
Cameras
Viewers and Projectors for 35 mm. Film
Lens Coating Processes
Photoelectric Exposure Meters
Portable Typewriters
Typewriter Ribbon and Carbon Paper
Fountain Pens and New Ball Point Pens
Blankets: Wool and Electric

Dressings for the Hair

A combination of expert evaluation and laboratory tests on 89 brands of widely-sold hair preparations including pomades, oils, mixtures, emulsions and "tonics"

The sheer number and the diversity of the products which lay claim to improving your hair are somewhat overwhelming. And the fate in store (according to the advertisers) for the person who neglects to use one or another of these products is almost too horrible to contemplate. It is with considerable trepidation, therefore, that CU enters to shed its cold light upon this over-charged field.

That such light is needed, however, no one will dispute. A glance at a drug store shelf devoted to hair preparations, and at the advertisements for the products, gives the impression that most people are deeply worried about the appearance of their hair. CU cannot, however, analyze these worries—if they exist. It can only pass judgment on the products.

In its report on 90 brands of hair preparations, CU is far from covering the field, but material is presented here on most of the nationally-advertised brands of "hair tonics," "hair grooms," and other hair preparations (except wave-sets). Ratings are based on a combination of expert evaluation and laboratory tests.

For purposes of clarity, both discussion and ratings have been broken down into several headings, each type of hair preparation being described and rated separately:

POMADES AND SOLID BRILLIANTINES

The basis of all the products in this group is simply petrolatum—the familiar household *Vaseline*. The products are perfumed, and sometimes colored; modifiers of various sorts are sometimes added to make them more or less tacky. All they can do is coat the hair shaft with an oily film which will make the hairs adhere to one another and consequently stay in place. Persons with very unruly hair are likely to prefer the relatively tacky preparations (see ratings).

If one is not sparing with the brilliantine, however, the result will be a "patent-leather" look, and a definitely sticky feel—one reason grandma's best parlor chairs were equipped with antimacassars.

Some of the products are for men, some for women, and others are offered for both sexes. The distinction is one of perfume (note comments in ratings).

Twelve brands were tested. Prices ranged from 4¢ an ounce *(Jo-Cur)* to 62½¢ an ounce *(Creme-Set)*. All were considered "Acceptable."

HAIR OILS AND LIQUID BRILLIANTINES

Ordinary mineral oil (rather than petrolatum jelly, as in the case of pomades) is the basis of these preparations. In fact, if you don't mind the absence of perfume and color and want to economize, you can achieve exactly the same effect with plain, light mineral oil at a fraction of the price.

Hair oils, like pomades, simply form an oily layer on the hair surface, and give it some gloss. They are less tacky than the solid preparations, and are used predominantly by women to help keep loose ends of hair in place.

There are literally thousands of private-label brands of liquid brilliantine on the market, since all it takes to get into business with this product is some mineral oil, some perfume and a few fancy bottles. CU has made no attempt here to cover the market; the 32 brands tested were considered "Acceptable." Prices of the brands tested, as with pomades, ranged from 4¢ an ounce *(Howe's Hair Oil)* to 62½¢ an ounce *(Elizabeth Arden's Blue Grass)*.

TWO-LAYER MIXTURES

These are liquids consisting of two separate layers: watery at the bottom, with oil floating on top. Instructions require that the user "shake well before using," but usually even the most vigorous shaking is inadequate to provide a satisfactory mixture. The trouble is that the layers re-form almost immediately, with the result that as you sprinkle the lotion over your hair, the oil floats away from the bottle mouth, and you are likely to get too much water and too little oil from a new bottle, too much oil and too little water when you get to the bottle's end.

Why these two-phase mixtures still hold an important place in the hair-lotion market is something of a mystery, since science has long ago disproved the old adage that "oil and water don't mix." The fact is that chemists can and do prepare highly stable oil-water emulsions, and many of the newer formulas in hair preparations are made up in this way.

In general, oil constitutes 10% to 20% of the two-layer formulas, though as little as 5.6% and as much as 41% were found in the brands examined. Alcohol is present in some brands, as noted in the ratings.

On the whole, these two-layer dressings are considered poor. But for those who nevertheless prefer them, the comments in the ratings may be useful. Odor was evaluated both when the product was fresh, and after it had been allowed to stand long enough for the water phase to have evaporated. Oil content is given (as found), and the percent of alcohol is given in terms of label statements. An evaluation is given of the tackiness of the product and the relative difficulty in keeping the two phases mixed in use.

Nine brands of two-phase lotions were tested. Prices ranged from 4.9¢ an ounce *(Float-Ol)* to 16.7¢ an ounce *(Stag Liquid Brilliantine)*. Note that the latter is *not* a brilliantine, despite the label.

EMULSIONS

The emulsions, like the two-layer mixtures, consist primarily of oil and water or water-soluble substances. But in these products, the oil and water are mixed to form a creamy, somewhat viscous liquid, with the droplets of the oil evenly dispersed in the watery fluid.

Manufacturers of emulsion-type hair dressings seem to be experimenting with qualities other than consistency. A definite advance seems to have been made in the case of *Wildroot Cream Oil*, in which the oily portion consists mainly of lanolin and lanolin derivatives, rather than a mineral oil, which is commonly used in hair preparations. The end product is not too tacky, and because of the presence of lanolin *Wildroot* may be very satisfactory for those having dry hair.

Brylcreme, one of the pioneers in emulsion dressings, though it was good with respect to consistency, was found to be excessively alkaline, and would not be recommended for day-to-day use.

Trol, a relatively new product, was different, but not much better. Its consistency was on the thin side, and its reaction was definitely acidic.

Nine emulsions were included in the test. Four of these were considered "Good"; five were not satisfactory. Prices ranged from 7.4¢ an ounce *(Silver Pine* and *Pro-Ker)* to 25¢ an ounce *(Seaforth* and *Gorjus).*

MISCELLANEOUS "TONICS"

This heading covers a variety of products with widely different ingredients and characteristics, though all of them are intended as hair dressings. Some are old-timers sold with exorbitant claims; some contain ingredients of very questionable value; some may even be harmful.

The implied claim for most of these tonics, though not generally stated in so many words, is that they will prevent or cure dandruff and baldness. Now, the cause of baldness is not known, though the variety of popularly-accepted causes has ranged all the way from tight hat bands to lack of virility. And science is just as much in the dark regarding the cure, though again popular belief—spurred on by product advertising—has held with many treatments and processes. One belief, it seems, has been generally accepted by both the manufacturers and the public: that whether or not it helps, massage of the hair and the scalp never did anyone harm. Hence the ubiquitous label statement on hair "tonics" calling for scalp massage, or as one company puts it, "60-second treatment."

Some of the preparations supplement the scalp stimulation induced through massage with chemical stimulants. Many contain a high percentage of alcohol, which tends to stimulate circulation. Resorcinol or its derivatives may be present. And, while these have a legitimate place in the treatment of some scalp disorders, it is CU's opinion that they should not be used indiscriminately in a formula of unknown over-all composition, and without suitable warnings of possible irritation. Nor is there any legitimate place for arsenous acid in a hair tonic, as contained in *Mahdeen.*

Dandruff—the ever-present bogey—is practically as uncharted a wilderness to scientists as is baldness. *Listerine's* "discovery" of *pityrosporum ovale* as the "cause" and *Listerine* as the "cure" has brought nary a ripple to scientific circles.

In CU's belief, all hair tonics which are claimed to cure disorders of the hair or scalp are fakes. If you have oily hair, and prefer an alcoholic lotion, get one which contains no medications and for which no curative claims are made.

A total of 27 brands of various hair tonics were examined. Prices ranged from 4.1¢ *(Westphal's Auxiliator)* to 62.5¢ *(Swing)* per ounce.

Ratings are in order of increasing cost per ounce within each group. Figures in parentheses represent cost per ounce. Prices are exclusive of 20% Federal tax unless otherwise noted.

Unless otherwise noted, perfume was satisfactory.

Pomades & Solid Brilliantines

ACCEPTABLE

Jo-Cur Hair Pomade (Jo-Cur, Inc., Jersey City, N.J.). 12¢ for 3 oz. (4¢). Fairly tacky. Perfume suitable for women. Available nationally.

Palmer's Hair-Success Dressing (Kells Co., Newburgh, N.Y.). 29¢ for 2 oz. (14.5¢). Very tacky; quite stiff; difficult to spread; good binding abilty. Perfume suitable for women.

Betty Woods Brilliantine (Betty Woods Laboratories, Hollywood). 31¢ for 2 oz. (15.5¢). Fairly tacky. Perfume suitable for women. Available in southern California.

Avon Hair Dress (Avon Products, NYC). 43¢ for 2⅜-oz. tube (18.1¢). Fairly tacky. Perfume suitable for women. Available nationally through company representatives.

Lady Marlow Solid Brilliantine (Lady Marlow Co., Hollywood). 37¢ for 1¾ oz. (21.2¢). Fairly tacky. Perfume suitable for men or women. Available in California at Sontag Drug Stores.

Stacomb (Standard Laboratories, Inc., NYC). 55¢ for 2½-oz. jar (22¢); 26¢ for 1¼-oz. tube (20.8¢). Slightly tacky. Poor perfume in 2½-oz. jar; perfume suitable for men or women in 1¼-oz. tube.

Brillox Jelle (Max Factor & Co., Hollywood). 50¢ for 2 oz. (25¢). Slightly tacky. Perfume suitable for women. Available nationally.

Yardley Solidified Brilliantine (Yardley, NYC). 55¢ for 2 oz. (27.5¢). Fairly tacky. Perfume suitable for men. Available nationally.

Three Flowers Brilliantine (Richard Hudnut, NYC). 50¢ for 1⅝ oz. (30.8¢). Two jars tested; one found very tacky, one fairly tacky. Perfume suitable for men or women. Available nationally.

Cara Nome Brilliantine (Langlois, Boston). $1 for 2 oz. (50¢). Very tacky. Perfume suitable for men or women. Available nationally at Liggett, Owl and Rexall Stores.

Pomatex (Montru for Beauty, NYC). 60¢ for 1 oz. Slightly tacky, spread easily. Perfume suitable for men or women. Available in Northeast, Midwest, Virginia and Washington, D.C.

Creme-Set Make-Up for the Hair (Ogilvie Sisters, NYC). $1.25 for 2 oz. (62.5¢). Fairly tacky. Perfume suitable for men or women. Available nationally.

Liquid Brilliantines & Oils

ACCEPTABLE

Howe's Hair Oil (Howe & Co., Hollywood). 12¢ for 3 oz. (4¢). Medium viscosity. Perfume suitable for women. Available nationally.

Rose Hair Oil (Vi-Jon, St. Louis). 12¢ for 3 oz. (4¢). Medium viscosity. Perfume suitable for men. Red color may stain. Available nationally.

Nowland's Landford Petrolin Oil Hair Tonic (Geo. H. Nowland Co., Cincinnati). 12¢ for 2 oz. (6¢). More viscous than most brilliantines. Perfume suitable for men or women. Available east of the Rockies.

Revelation Brilliantine (Stineway Drug Co., Chicago). 25¢ for 4 oz. (6.3¢). Light viscosity. Perfume suitable for women.

Stag Perfumed Hair Oil (Langlois). 39¢ for 6 oz. (6.5¢); 29¢ for 3 oz. (9.7¢). Light viscosity. Perfume very sweet; suitable for women. Available nationally at Liggett, Owl and Rexall Stores.

Vitone Liquid Petroleum Hair Dressing (Whelan Drug Co., NYC). 29¢ for 4 oz. (7.3¢). Medium viscosity. Perfume suitable for women. Available nationally at Whelan Stores.

Sears Approved Petrolatum Hair Tonic, Cat. No.—6127 (Sears, Roebuck). 59¢ (tax included) plus postage for 6 oz. (8.2¢). Medium viscosity. Perfume suitable for women. Available by mail order.

Glo-Co Hair Dressing (Glo-Co Co., Los Angeles). 59¢ for 6 oz. (9.8¢); 39¢ for 3 oz. (13¢). Perfume suitable for men.

Betty Woods Brilliantine (Betty Woods Laboratories). 59¢ for 6 oz. (9.8¢). Light viscosity. Perfume poor; sweet kerosene-like odor. Available in southern California.

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Vaseline Hair Tonic (Chesebrough Mfg. Co., NYC). 63¢ for 6 oz. (10.5¢); 37¢ for 2 oz. (18.5¢). Medium viscosity. Perfume suitable for men or women. Available nationally.

42 Luster Life Hair Oil Tonic ("42" Products, Ltd., Los Angeles). 49¢ for 4 oz. (12.3¢). Medium viscosity. Perfume suitable for women. Available on West Coast; spotty national distribution.

Liquid Stacomb (Standard Laboratories, Inc., NYC). 39¢ for 3 oz. (13¢). Medium viscosity. Perfume suitable for men or women.

Larkin Brilliantine (Larkin Co., Buffalo). 25¢ for 1¾ oz. (14.3¢). Light viscosity. Perfume suitable for women. Available by mail order.

Cashmere Bouquet Brillantine (Colgate-Palmolive-Peet Co., Jersey City). 33¢ for 2 oz. (16.5¢). Light viscosity. Perfume suitable for women. Available nationally.

Lady Marlow Brilliantine (Lady Marlow Co.). 37¢ for 2 oz. (18.5¢). Light viscosity. Perfume suitable for women. Available in California at Sontag Drug Stores.

Glostora (R. L. Watkins Co., NYC). 29¢ for 1½ oz. (19.3¢). Medium viscosity. Perfume suitable for men or women.

Filene's Own Brilliantine (Wm. Filene's Sons Co., Boston). 39¢ for 2 oz. (19.5¢). Perfume suitable for men or women. Available at Filene's Dep't. Store, Boston.

Brillox (Max Factor). 50¢ for 2½ oz. (20¢). Light viscosity. Perfume suitable for men or women. Available nationally.

Brillantine Corbeille Fleurie (Pinaud, Inc., NYC). 46¢ for 2 oz. (23¢). *Rose:* medium viscosity; perfume suitable for men. *Violette:* light viscosity; perfume suitable for men. Available nationally.

L.B. Hair Oil (L.B. Laboratories, Inc., Hollywood). 48¢ for 2 oz. (24¢). Medium viscosity. Perfume suitable for men or women.

Three Flowers Brilliantine (Richard Hudnut). 50¢ for 2 oz. (25¢). Light viscosity. Perfume suitable for men or women. Available nationally.

Leon Laraine Liquid Brilliantine (Carrel, Ltd., Chicago). 50¢ for 2 oz. (25¢). Medium viscosity. Perfume suitable for women. Available nationally.

Barbara Gould Brilliantine (Barbara Gould, NYC). 50¢ for 2 oz. (25¢). Light viscosity; spread very easily. Perfume suitable for women. Available nationally.

Surfspray Hair Groom (James E. Coates & Co., Chicago). $1 for 4 oz. (25¢). Medium viscosity. Perfume suitable for women; very sweet. Available nationally.

Frolic Brilliantine (Cheramy, NYC). 55¢ for 2 oz. (27.5¢). Light viscosity. Perfume suitable for men and women. Available nationally.

April Showers Brilliantine (Cheramy). 55¢ for 2 oz. (27.5¢). Medium viscosity. Perfume suitable for women. Available nationally.

Avon Brilliantine (Avon Products). 59¢ for 2 oz. (29.5¢). Medium viscosity. Perfume suitable for women. Available nationally through representatives.

Beauty Counselor Brilliantine (Beauty Counselors, Inc., Grosse Pointe, Mich.). 60¢ for 2 oz. (30¢). Light viscosity. Perfume suitable for women. Available by mail order.

Roger & Gallet Brilliantine Violette (Roger & Gallet, NYC). 50¢ for 1 oz. Light viscosity. Perfume suitable for men. Available nationally.

Cara Nome Liquid Brilliantine (Langlois). $1 for 2 oz. (50¢). Light viscosity. Perfume suitable for men and women. Available nationally at Liggett, Owl and Rexall Stores.

Harriet Hubbard Ayer Brilliantine (Harriet Hubbard Ayer, NYC). 50¢ for 1 oz. Medium viscosity. Perfume suitable for men or women. Available nationally.

Blue Grass Brillantine (Elizabeth Arden, NYC). $1.25 for 2 oz. (62.5¢). Light viscosity; spread very easily, felt unlike mineral oil. Perfume suitable for women. Available nationally.

Two-Layer Mixtures

ACCEPTABLE

While these products are not generally recommended, they are listed as "Acceptable" for those who prefer to use them.

Float-Ol (Stroback Laboratories, NYC). 39¢ for 8 oz. (4.9¢). Fairly tacky; 11.5% oil; difficult to keep mixed. 30% alcohol. Perfume suitable for men.

Westphal's Lusterator (Paul Westphal, Inc., NYC). 69¢ for 12 oz. (5.8¢). Slightly tacky; 15% oil; difficult to keep mixed. 25% alcohol. Perfume suitable for men. Available nationally.

Annapolis Hair Dress with Oil (Associated Brands). 49¢ for 8 oz. (6.1¢). Slightly tacky; 18% oil; fairly difficult to keep mixed. 17.4% alcohol. Perfume suitable for men.

Ovil-Tone for Hair Dressing (Great Atlantic Laboratories, Boston). 89¢ for 12 oz. (7.4¢); 49¢ for 6 oz. (8.2¢). Fairly tacky; 17% oil; difficult to keep mixed. Unperfumed. Available nationally.

Petroleum Hair Rub (United Drug Co., Boston). 50¢ for 6 oz. (8.3¢). Very slightly tacky; 23% oil; fairly difficult to keep mixed. 25% alcohol. Perfume poor; residual odor fair. Available nationally at Liggett, Owl and Rexall Stores.

Kreml Hair Tonic (R. B. Semler, Inc., New Canaan, Conn.). 84¢ for 10 oz. (8.4¢); 31¢ for 3 oz. (10.3¢). Very slightly tacky; 9% oil; fairly difficult to keep mixed. 19% alcohol. Perfume suitable for men. Available nationally.

Noonan's Hair Petrole (T. Noonan & Sons Co., Boston). 89¢ for 8 oz. (11.1¢). Slightly tacky; 11.4% oil; fairly difficult to keep mixed. 14% alcohol. Perfume poor; irritating chemical odor. Available in Northeast.

Yardley Hair Tonic (Yardley). $1.50 for 11 oz. (13.6¢). Fairly tacky; 5.6% oil; easily mixed. 65% alcohol. Perfume suitable for men. Available nationally.

Stag Liquid Brilliantine (Langlois). 50¢ for 3 oz. (16.7¢). Slightly tacky; 41% oil; easily mixed. Perfume suitable for men or women; rather sweet. Available nationally at Liggett, Owl and Rexall Stores.

Emulsions

ACCEPTABLE

GOOD

Silver Pine (Silver Pine Mfg. Co., NYC). $1.19 for 1 pt. (7.4¢); 69¢ for 8 oz. (8.6¢). Light emulsion; slightly tacky; spread easily; oil and a little fat residue. Unperfumed.

Wildroot Cream-Oil Formula (Wildroot Co., Buffalo). 79¢ for 10 oz. (7.9¢); 47¢ for 5 oz. (9.4¢). Heavy emulsion; slightly tacky; spread easily; soft fat residue. Perfume suitable for men. Available nationally.

Rayve Creme Hair Dress (Raymond Laboratories, Inc., St. Paul, Minn.). 60¢ for 2½ oz. (24¢). Medium emulsion; slightly tacky; soft grease residue. Perfume suitable for men or women. Available nationally.

Seaforth! For Men Hairdressing (Alfred D. McKelvy Co., Greenwich, Conn.). $1 for 4 oz. (25¢). Thin emulsion; slightly tacky; spread easily; light, oily residue. Perfume suitable for men. Available nationally.

FAIR

Pro-Ker No. 9 For Dry Scalps (Hair Products Co., NYC). $1.19 for 16 oz. (7.4¢). Thin emulsion; fairly tacky; solid fat residue. Similar to *Pro-Ker No. 10*, but felt slightly heavier. Unperfumed. Available in Northeast, Illinois, and on West Coast.

Pro-Ker No. 10 (Hair Products Co.). $1.19 for 16 oz. (7.4¢); 79¢ for 8 oz. (9.9¢). Very thin emulsion; slightly tacky; solid and liquid fat residue. Unperfumed. Available in Northeast, Illinois, and on West Coast.

Trol Activated Oil (Odell Co., Newark, N.J.). 48¢ for 6 oz. (8¢). Formulation between a two-layer mixture and emulsion; required shaking. Thin;

slightly tacky; oil residue with green color. Unperfumed. Available in Northeast.

Brylcreem (County Perfumery Co., Bloomfield, N.J.). 49¢ for 4 oz. (12.3¢); 29¢ for 2 oz. (14.5¢). Semi-solid; very slightly tacky; spread easily, liquefied on scalp; soft emulsion residue. Would be good, except for alkalinity. Perfume suitable for men. Available nationally.

Gorjus Hair Dressing (Andy Lotshaw Co., Chicago). 50¢ for 2 oz. (25¢). Medium emulsion; fairly tacky; soft, semi-solid fat residue. Perfume suitable for women. Available in Midwest, N.Y. and Penna.

Miscellaneous Dressings

Ratings are in terms of the products' efficacy as hair dressings, without consideration of advertising claims made for some of them.

ACCEPTABLE

GOOD

Co-op Hair Dressing (National Co-operatives, Inc., Chicago). 37¢ for 7½ oz. (4.9¢). Very slightly tacky; not sticky; smooth, light, oily feel. Perfume suitable for men or women. Available nationally at Co-op Stores.

Avon Hair Lotion (Avon Products, Inc.). 59¢ for 6 oz. (9.8¢). Slightly tacky; oily, but not greasy to the touch; some separation of oil, but restored to solution upon shaking; oily residue. Perfume suitable for men or women. Available nationally through representatives.

Formula 20 For Loose Dandruff (Valentine Laboratories, Inc., Chicago). 79¢ for 8 oz. (9.9¢); 37¢ for 3½ oz. (10.6¢). Slightly tacky; slightly oily feel; oily residue. Perfume suitable for men.

Pinaud Eau De Quinine Compound Hair Lotion (Pinaud, Inc.). 97¢ for 6 oz. (16.2¢). Very slightly tacky; no greasy feel, but contained some ingredient with "setting" properties; three-phase residue—oil, colorless gummy matter and red solid matter. Perfume suitable for men. Available nationally.

Swing Hair Fragrance (Ogilvie Sisters). $1.25 for 2 oz. (62.5¢). Fairly tacky; slightly oily feel; oily, turbid residue. 62½% alcohol. Perfume suitable for men. Available nationally.

FAIR

Westphal's Auxiliator (Paul Westphal, Inc.). 49¢ for 12 oz. (4.1¢). Slightly tacky; non-oily feel; clear, oil residue. 55% alcohol. Perfume suitable for men or women. Available nationally.

Wildroot Regular Formula (Wildroot Co.). 79¢ for 14 oz. (5.6¢). Slightly tacky; non-oily feel; solid residue. Perfume suitable for men. Available nationally.

Patone Hair Governor (Capatone Products Co., NYC). 89¢ for 16 oz. (5.6¢). Very tacky; oily feel; oil residue. 77% alcohol. Perfume suitable for men.

Jeris Antiseptic Hair Tonic (A. R. Winarick, Inc., NYC). 75¢ for 12 oz. (6.3¢). Very slightly tacky; non-oily feel; green grease and grainy solids residue. Perfume suitable for men and women.

Larkin Scalp Lotion (Larkin Co., Buffalo). 30¢ for 4 oz. (7.5¢). Slightly tacky; non-oily feel; crystals and solids residue. Perfume suitable for women. Available by mail order.

Ladd's Imperial (Hamilton Products Co., NYC). 39¢ for 5 oz. (7.8¢). Fairly tacky; heavy, oily feel; oil and dark, gummy residue. Perfume suitable for men. Available nationally.

Double Danderine (Sterling Products, Wheeling, W. Va.). 79¢ for 10 oz. (7.9¢); 29¢ for 2¼ oz. (10.5¢). Fairly tacky; non-oily feel; stiff oil residue. 9% alcohol. Unperfumed.

Wildroot With Oil 3-Action (Wildroot Co.). 79¢ for 10 oz. (7.9¢). Very tacky; slightly oily feel; oil residue. Perfume suitable for men or women. Available nationally.

Lucky Tiger Regular (Lucky Tiger Mfg. Co., Kansas City, Mo.). $1 for 12 oz. (8.3¢). Slightly tacky; dry, non-oily feel; solid, greasy residue. 50% alcohol. Perfume suitable for men. Available nationally.

Larkin Hair Dress (Larkin Co., Buffalo). 35¢ for 4 oz. (8.8¢). Fairly tacky. Perfume poor; castor oil odor. Available by mail order.

Barker's Hirsutus (Wm. J. Barker, NYC). $1.59 for 16 oz. (9.9¢); 94¢ for 7 oz. (13.4¢). Slightly tacky; non-oily feel; stiff oil and crystal residue. 35% alcohol. Unperfumed. Available nationally.

Vitalis (Bristol-Myers Co., NYC). 43¢ for 4 oz. (10.8¢). Fairly tacky; oily feel; clear oil residue. 75% alcohol. Perfume suitable for men or women. Available nationally.

Fitch's Ideal Hair Tonic (F. W. Fitch Mfg. Co., Des Moines). 47¢ for 4 oz. (11.8¢). Fairly tacky; slightly oily feel; oil residue. Perfume suitable for men. Available nationally.

Stag for Hair and Scalp (Langlois). 79¢ for 6 oz. (13.2¢); 59¢ for 3 oz. (19.7¢). Fairly tacky; rather oily feel; oil and some grease residue. Perfume suitable for men. Available nationally at Liggett, Owl and Rexall Stores.

New Hair Groom (Whitehall Pharmacal Co., NYC). 89¢ for 6 oz. (14.8¢). Fairly tacky; rather oily feel; oil residue. 77% alcohol. Poor perfume; slightly rancid.

POOR

West Point Hair Dress (Associated Brands, Inc., Brooklyn, N.Y.). 89¢ for 1 pt. (5.6¢). Very tacky; very oily, sticky feel; viscous oil residue. 77.8% alcohol. Perfume poor.

Gramatan for Hair & Scalp (Gramatan Co., NYC). 63¢ for 8 oz. (7.9¢). Fairly tacky; dry, gummy; non-oily feel; oil and crystal residue. 10% alcohol. Unperfumed; medicinal, antiseptic odor.

Rexall 93 Hair Lotion (United Drug Co.). $1.19 for 14 oz. (8.5¢). Fairly tacky; dry, non-oily feel; oil, crystal and gummy residue. 24% alcohol. Perfume poor.

Barry's Tricopherous (Lanman & Kemp-Barclay & Co., NYC). 42¢ for 3½ oz. (12¢). Very tacky; oily feel; oil residue. 27% alcohol. Perfume poor.

Frances Fox Daily Hair Lotion (Frances Fox Laboratories, Inc., Ridgewood, N.J.). $1.50 for 8 oz. (18.8¢). Slightly tacky; oil and solid residue; much insoluble sediment. Perfume poor.

Herpicide (Herpicide Co., NYC). 89¢ for 8 oz. (11.1¢). Fairly tacky; non-oily feel; crystal residue. Perfume suitable for women.

NOT ACCEPTABLE

Mahdeen for Dandruff (Mahdeen Co., Nacogdoches, Texas). 83¢ for 12 oz. (6.9¢); 49¢ for 6 oz. (8.2¢). 12% alcohol. Contained arsenous acid, a toxic substance, having no place in a proprietary hair tonic.

PEANUT BUTTER

Tests made for CU of 55 brands show the vast majority to have very good flavor, but many received low ratings because they could not meet standard for absence of defects

Tests of 55 brands of peanut butter by the U. S. Department of Agriculture's grading service indicate that while most manufacturers have learned the secret of how to make their product taste good, some are not equally successful in keeping it clean. In 53 of the 55 brands, every sample tested for CU met the Grade A flavor specification: "very good flavor and aroma typical of freshly roasted peanuts, free from staleness, rancidity or objectionable flavor or odor of any kind." But 31 of the brands were nevertheless rated Grade C or Substandard because of the presence of defects — grit, sand, scorched or discolored peanut tissue, particles of peanut skin, peanut shell or other extraneous material. Three brands were rated "Not Acceptable" because one sample of the four tested of each brand contained an insect or rodent hairs.

To quote from a Department of Agriculture circular: "The best stock will not make good butter unless all the work of converting it into a high-grade product is carried on in the proper way and under sanitary conditions."

MANUFACTURING METHOD

There are four steps in the manufacture of peanut butter—shelling and cleaning the peanuts; roasting the peanuts; grinding and blending them with salt and possibly other ingredients; and packaging. Carelessness at any one of these steps will result in an inferior product.

Most manufacturers buy the peanuts already cleaned, shelled and graded. No. 1 peanuts consist of perfect, unbroken kernels; No. 2 peanuts consist of split kernels; and No. 3 peanuts consist of broken kernels, hearts from broken kernels, and immature or shriveled "pegs." Only No. 1 and No. 2 peanuts can produce satisfactory peanut butter. Often the two grades are mixed, but too large a proportion of No. 2 peanuts tends to produce an inferior product.

The degree of care exercised by the manufacturers in roasting the peanuts has a direct bearing on the flavor and the color of the peanut butter. Inadequately roasted peanuts are unpalatable; over-roasted peanuts produce butter with a scorched flavor and dark brown color.

After the peanuts are roasted, the skins must be removed, the kernels split and the hearts or "germs" removed. If any of the red skin is left on the peanuts, the resulting butter will contain dark specks. If any hearts are ground up with the peanuts the peanut butter will be bitter and tend to turn rancid. It is at this point in the manufacture of peanut butter that great care must be exercised to remove other extraneous material—stones, pieces of metal, discolored nuts and any foreign matter. Part of this process is done mechanically; it must be completed by hand-picking.

After the nuts have been roasted and cleaned they are ready for grinding. Some peanut butters are made from only one type of peanut, but most manufacturers use a blend of Virginia or Jumbo and Spanish peanuts. The Virginia type contains less oil than the Spanish and unless it is ground very fine the resultant product is not smooth. Spanish peanuts, used alone, make a peanut butter which is smooth but tends to be excessively oily. A blend of the two types makes better peanut butter than either type used alone.

PEANUT BUTTER GRINDS

There are three grinds of peanut butter—fine, medium, and coarse or chunky. Fine grind produces a smooth-textured butter; medium grind, a grainy texture; and coarse, a rather rough texture. Chunky peanut butter sometimes has pieces of unground nuts mixed into the paste. After the peanuts have been ground and mixed with salt, the peanut butter is vacuum-packed in jars or cans.

In the past, a major complaint about peanut butter has concerned the tendency of the oil to separate and rise above the solid matter. Because of its greater exposure to light and air, this separated oil would tend to become rancid more quickly than if it had remained mixed with the ground peanut solids. Some of the peanut butters on the market still do tend to separate; in fact such separation is not necessarily an indication of poor quality, for if the peanut butter is fresh, the oil may be stirred back into the solid without harm to any of the characteristics of the product.

In recent years, however, much work has been done by the industry to improve the consistency and keeping quality as well as the flavor of peanut butter. Oil separation, it has been found, can be prevented by the addition of hydrogenated fats, by the addition of small amounts of glycerine, by storing the peanut butter under refrigeration, or by the addition of substances that will absorb the oil (malted milk, for example), to name only a few.

Some of the processes which prevent oil separation also improve the consistency and texture of the peanut butter, making it easier to spread and less likely to stick to the roof of the mouth. Experimental work at the Georgia Experiment Station indicates that it may not be long before the housewife will find the old-fashioned jar of sticky peanut butter replaced by a "brick" wrapped in cellophane or other oil-resistant wrapper.

NUTRITIVE VALUE

Peanut butter is an excellent food. In addition to being a rich source of high-quality protein and fat, it contains minerals and vitamins —A, B_1 and riboflavin. Despite the fact that processing destroys much of the total thiamine (vitamin B_1) content of the peanuts, peanut butter is still a good source of this vitamin. Light-roast peanut butters contain more vitamin B_1 than do dark roasts.

Not only is peanut butter a highly nutritious food, but it is also a relatively cheap source of the important nutritive elements. At the time the peanut butters were purchased for test (Spring, 1946), there had been practically no price change from the 1943 level, when CU last reported on peanut butter. The one brand which showed a price change was *Skippy*. And *Skippy Peanut Butter* dropped from 59¢ a pound, which made it the most expensive brand tested in 1943, to 36¢ to 39¢ a pound—still one of the most expensive brands, but more nearly in line with others. Grade A peanut butters were available at

prices ranging from 1.4¢ an ounce (one ounce is about the amount of peanut butter needed to make a well-spread peanut butter sandwich) to 2.6¢ an ounce, with the average per-ounce cost about 1.9¢. The average cost per ounce of Substandard peanut butter was almost the same as that of Grade A.

Government graders examined 215 samples consisting of 55 brands of peanut butter. Four samples of each brand bought in different stores at different times were tested in 51 of the brands; two or three samples were tested in the remaining four brands. All samples were tested for grind, color, flavor, odor and defects. Except for two out of the four jars of *Nation-Wide* and one of the four jars of *Krasdale*, which were off-flavor, all the brands were Grade A with respect to flavor. It was the presence of excessive amounts of grit or particles of skin and hearts which made otherwise Grade A products rate Grade C or Substandard.

The presence of what might be termed "normal" defects in peanut butter—grit, skin etc.—while undesirable to the consumer, can be passed off simply as bad manufacturing practice. But the presence of rat hairs, found in *Royal Scarlet* and S. S. Pierce's *Overland* and the presence of a bug in a sample of *Premier* peanut butter may indicate serious lack of sanitary safeguards.

In the ratings which follow, the peanut butters are listed in decreasing order of quality within each group, except in the Substandard classification, where they are listed alphabetically. Figures in parentheses represent the cost per ounce.

BEST BUYS

Come Again (National Tea Co., Chicago). 44¢ for 2 lb. (1.4¢). Grade A. Dark roast. Available in Midwest.

Finast (First National Stores, Inc., Somerville, Mass.). 24¢ for 1 lb. (1.5¢). Grade A. Dark roast. Available in N.Y. and New England at First National Stores.

Blue & White (Red & White Corp., Chicago). 39¢ for 1 lb. 8 oz. (1.6¢). Grade A. Dark roast. Available nationally except in South at Red & White Stores.

Ecco (Stop & Shop Supermarkets and Economy Grocery Stores, Boston). 15¢ for 8½ oz. (1.8¢). Grade A. Dark roast. Available in Mass. and Conn. at Economy Grocery Stores and Stop & Shop Supermarkets.

Wilmar (Wilmar Mfg. Co., Philadelphia). 30¢ for 1 lb. (1.9¢); 21¢ for 9½ oz. (2.2¢). Grade A. Dark roast. Not the same as *Wilmar Bits-O-Nuts* listed under "Variable," below.

ACCEPTABLE

(In order of quality.)

GRADE A

Beech-Nut (Beech-Nut Packing Co., Canajoharie, N. Y.). 19¢ for 8 oz. (2.3¢). Dark roast. Available nationally.

Come Again (see "Best Buys").

Wilmar (see "Best Buys").

Blue & White (see "Best Buys").

CCA Co-op Coarse Grind (Consumers Cooperative Ass'n, North Kansas City). 34¢ for 1 lb. (2.1¢). Dark roast. Available in Midwest.

Ecco (see "Best Buys").

Finast (see "Best Buys").

Golden West (Golden West Products Co., Los Angeles). 35¢ for 1 lb. (2.2¢). Dark roast.

Hazel (National Tea Co.). 18¢ for 9 oz. (1.9¢). Dark roast. Available in Midwest.

S and W (S & W Fine Foods, Inc., San Francisco). 32¢ for 1 lb. (2¢). Dark roast. Available nationally.

P and G Peanut Krakle (Paxton and Gallagher Co., Omaha). 33¢ for 1 lb. (2¢). Two jars light roast, two jars dark roast. Available in Nebr., Iowa and S. D.

Planters Homogenized (Planters Nut & Chocolate Co., Suffolk, Va.). 35¢ for 1 lb. (2.2¢); 21¢ for 8½ oz. (2.5¢). Dark roast. Available nationally.

Blue Jewel Tid-Bit (Jewel Food Stores, Barrington, Ill.). 28¢ for 1 lb. (1.8¢). Dark roast. Available in Chicago at Jewel Tea Stores, and nationally via Direct-to-Home Service.

Red & White (Red & White Corp.). 59¢ for 2 lb. (1.8¢); 33¢ for 1 lb. (2.1¢). Dark roast. Available nationally except in South at Red & White Stores.

Donald Duck (Nash-Underwood Inc., Chicago). 33¢ for 1 lb. (2¢). Two jars light roast, two jars dark roast.

La-Nut (L. A. Nuthouse, Los Angeles). 31¢ for 1 lb. (1.9¢). Dark roast.

Laura Scudder's (Scudder Food Products, Inc., Monterey Park, Calif.). 36¢ for 1 lb. (2.3¢); 21¢ for ½ lb. (2.6¢). Dark roast.

Co-op (National Co-operatives Inc., Chicago). 18¢ for 9 oz. (2¢). Dark roast. Available nationally at Co-op Stores.

Peanut Crunch (Holsum Products, Brooklyn). 33¢ for 1 lb., 18¢ for 9 oz. (2¢). Dark roast. Available nationally.

Asco (American Stores Co., Philadelphia). 26¢ for 1 lb. (1.6¢). Dark roast. Available nationally at American Stores.

Armour's Star (Armour and Co., Chicago). 32¢ for 1 lb. (2¢); 20¢ for 8 oz. (2.5¢). Light roast. Available nationally.

VARIABLE (GRADE A TO GRADE C)

In the following group two jars rated Grade A and two jars rated Grade C because of defects. In order of decreasing score.

White Rose Homogenized, Vitamin D Added (Seeman Bros., Inc., NYC). 35¢ for 1 lb., 19¢ for 8½ oz. (2.2¢). Dark roast. Available in East, Calif., and some Midwest States.

Lenox (Gimbel Bros., NYC). 26¢ for 1 lb. (1.6¢). Dark roast. One jar was short weight by 3 oz. Available at Gimbel Bros. Dep't Stores.

Howdy Coarse Grind (Table Products Co., San Francisco). 26¢ for 1 lb. (1.6¢). Dark roast. Available in N.Y., Washington, D. C., and west of the Mississippi at Safeway Stores.

Beverly (Table Products Co.). 27¢ for 1 lb. (1.7¢). Dark roast. Available in N.Y., Washington, D.C., and west of the Mississippi at Safeway Stores.

Real Roast (Table Products Co.). 45¢ for 2 lb., 23¢ for 1 lb. (1.4¢). Dark roast. Available in N.Y., Washington, D.C., and west of the Mississippi at Safeway Stores.

Kroger's Embassy (Kroger Grocery & Baking Co., Cincinnati). 24¢ for 1 lb. (1.5¢); 14¢ for ½ lb. (1.8¢). Dark roast. Available in Midwest at Kroger Stores.

CCA Co-op Black Label (Consumers Cooperative Ass'n). 32¢ for 1 lb. (2¢). Light roast. Available in Midwest.

GRADE C

The following brands were rated Grade C because of defects:

IGA Red-Cap Homogenized (Independent Grocers' Alliance Dist. Co., Chicago). 19¢ for 9 oz. (2.1¢). Dark roast. Available nationally at IGA Stores.

Blue Jewel (Jewel Food Stores). 28¢ for 1 lb. (1.8¢). Dark roast. Available in Chicago at Jewel Tea Stores, and nationally via Direct-to-Home Service.

Sultana (A&P, NYC). 24¢ for 1 lb. (1.5¢); 14¢ for 8½ oz. (1.6¢). Dark roast. Available nationally at A&P Stores.

Lane's (E. F. Lane & Son, San Francisco). 25¢ for 1 lb. (1.6¢). Dark roast.

Heinz (H. J. Heinz Co., Pittsburgh). 39¢ for 1 lb. (2.4¢); 20¢ for 8 oz. (2.5¢). Dark roast. Available nationally.

Chunk-E-Nut (Chunk-E-Nut Products Co., Philadelphia). 27¢ for 1 lb. (1.7¢). Dark roast.

Ann Page (A&P). 31¢ for 1 lb. (1.9¢). Dark roast. Available nationally at A&P Stores.

Derby's Peter Pan (Derby Foods, Inc., Chicago). 28¢ for 12 oz. (2.3¢). Dark roast.

Skippy Creamy (Rosefield Packing Co., Alameda, Calif.). 36¢ for 1 lb. (2.3¢). Dark roast. Not the same as *Skippy Chunk Style*, listed under "Substandard," below.

Beardsley's Grade A (J. W. Beardsley's

Sons, Newark). 17¢ for 8 oz. (2.1¢). Light roast.

VARIABLE (GRADE A TO GRADE D)

The following were variable, with one or more samples in each brand Substandard because of defects, color or flavor. Listed in alphabetical order.

Bell Brand (Bell Brand Foods, Ltd., Vernon, Calif.). 33¢ for 1 lb. (2.1¢). Two samples Grade D because of defects; one sample Grade A; one Grade C. Dark roast.

Blue Ridge (Independent Grocers' Alliance Dist. Co.). 29¢ for 1 lb. (1.8¢); 16¢ for 8 oz. (2¢). Two samples Grade D because of defects; two samples Grade A. Grade D samples were light roast, Grade A samples dark roast.

Bohack's (H. C. Bohack Co., Brooklyn). 26¢ for 1 lb. (1.6¢). One of four samples Grade D because of defects; others Grade A. Dark roast.

Chu-Wee (Independent Grocers' Alliance Dist. Co.). 29¢ for 1 lb. (1.8¢). One of four samples Grade D because of defects; others Grade A. Light roast.

Grisdale Homogenized (Gristede Bros., NYC). 28¢ for 1 lb. (1.7¢). One of four samples Grade D because of defects; others Grade C. Dark roast.

Krasdale (Krasdale Foods, Inc., NYC). 20¢ for 8½ oz. (2.3¢). One of four samples Grade D because of defects; two samples Grade C; one Grade A. Dark roast.

Larkin Cat. No.—174 (Larkin Co., Buffalo). 30¢ plus postage for 1 lb. (1.9¢). Two of four samples Grade D because of defects; one Grade C; one Grade A. Dark roast.

Lily White Rough Cut (R. H. Macy & Co., NYC). 26¢ for 1 lb. (1.6¢). One of four samples Grade D because of defects; others Grade A. Dark roast.

Lummis Homogenized (Lummis Co., Philadelphia). Sears, Roebuck Cat. No.—8635. 25¢ plus postage for 1 lb. (1.6¢). One of four samples Grade D because of defects; others Grade C. Dark roast.

Nation-Wide (Nation-Wide Service Grocers, Brockton, Mass.). 14¢ for 6 oz. (2.3¢); 29¢ for 12 oz. (2.4¢). Two samples Grade D because of defects, flavor, odor and color; others Grade A. Dark roast.

Rose Homogenized Chunky (Morris Rosenberg Co., Los Angeles). 31¢ for 1 lb. (1.9¢); 19¢ for ½ lb. (2.3¢). One of four samples Grade B because of defects; others Grade A. Dark roast.

Skippy Chunk Style (Rosefield Packing Co.). 39¢ for 1 lb. (2.4¢). One of four samples Grade D because of defects; two Grade C; one Grade A. Dark roast.

Tellam's High Grade Brand (Wm. Tellam Co., Atlanta). 29¢ for 1 lb. (1.8¢); 27¢ for 11½ oz. (2.3¢); 20¢ for 8 oz. (2.5¢). One of four samples Grade D because of defects, two Grade C, one Grade A. Dark roast.

Wilmar Bits-O-Nuts (Wilmar Mfg. Co.). 33¢ for 1 lb (2¢). One of four samples Grade D because of defects; one Grade C; two Grade A. Dark roast. This is "chunk" style; not the same as *Wilmar* listed under "Best Buys," above.

NOT ACCEPTABLE

The following brands were considered "Not Acceptable" because one sample of the four tested in each brand contained filth.

Overland Homogenized (S. S. Pierce Co., Boston). 28¢ for 1 lb. (1.8¢). One of four samples contained rat hair; others Grade A. Dark roast.

Premier (Francis H. Leggett & Co., NYC). 33¢ for 1 lb. (2.1¢). One of four samples contained an insect; two Grade C; one Grade A. Light roast.

Royal Scarlet (R. C. Williams & Co., NYC). 29¢ for 1 lb. (1.8¢); 14¢ for 5 oz. (2.7¢). One of four samples contained rat hair; one Grade D; one Grade C; one Grade A. Dark roast.

Elections to CU Board of Directors

With 33,679 Consumers Union members casting ballots in the 1946 elections to the CU Board of Directors, five directors have been re-elected for three-year terms. The five who received the highest number of votes are:

Madeline Ross, Editor of Consumer Reports and Bread & Butter; assistant director of Consumers Union and a chemical engineer, who has been a member of the CU staff since it was founded in 1936.

Paul J. Kern, lawyer, who recently returned from Army service, and who was one of CU's attorneys in the successful court action against the Postmaster General to compel acceptance of CU's report on contraceptive materials for mailing.

Dr. Edward Reich, consumer educator and author, who has written many texts on consumer subjects for school use, and who was co-founder of the Consumer Education Association.

Dr. Leland Gordon, Professor of Economics at Denison University, author of a number of books on consumer subjects, and a research specialist in the Office of Consumer Adviser, Advisory Commission for the Council of National Defense in 1940 and 1941.

Eleanor C. Anderon, Industrial Secretary, National Board of Y.W.C.A., who was engaged for a number of years in educational and recreational activities with workers in various parts of the country and who served on Boards of the Labor Education Service and the Summer School for Office Workers.

The other members of the CU Board, whose terms expire in 1947 or 1948, are: Dr. Colston E. Warne, President of Consumers Union and Professor of Economics at Amherst College; Dr. Hartley W. Cross, Vice-President of Consumers Union and Professor of Economics at Connecticut College; Dr. Harold Aaron, Secretary of Consumers Union, and head of its Medical Advisory Committee; Bernard J. Reis, Treasurer of Consumers Union, and President of the American Investors Union; Dr. Frank Beube, Assistant Professor of Dentistry, Columbia University; Osmond K. Fraenkel, attorney and author; Dr. Harry Grundfest, biologist; Helen Hall, social worker and Head of Henry Street Settlement; Jerome Hellerstein, attorney; Arthur Kallet, engineer and Director of Consumers Union; Dr. Emmanuel Klein, Psychiatrist; Rissel Bonoff, staff representative, Adelaide Schulkind, Executive Secretary, League for Mutual Aid.

The complete tabulation of the ballots follows:

Madeline Ross	24,004
Paul J. Kern	23,669
Edward Reich	23,104
Leland Gordon	21,152
Eleanor C. Anderson	14,462
Max Wender	12,980
Thomas Cooch	9,949
Lydia Altschuler	7,681
William Arthur Anderson	7,215
Charles J. Repka	7,044

YOUR CHILD

Dr. Joseph Lander here discusses some important problems concerned with sex. Sixth of a series of articles.

Instinct—the driving force of certain inborn pressures or urges—is responsible for the appearance of sexual interest and activity in every healthy, well-adjusted child in the first few years of life. (See the *Reports*, July 1946, for fuller discussion of this phase of the problem.) It is as natural for the child to express these urges as it is for him, under the pressure of other drives, to suckle when he is placed at the breast, or to try to walk after he has crawled for the requisite number of months.

The sexual interest of the child manifests itself in various ways. One is in simple curiosity; he enjoys looking at other children's bodies, comparing them with his own to see wherein they differ, and generally exploring and experimenting with them. Another show of interest is the pride the child takes in displaying his body to others or in preening before a mirror. Somewhat more subtle, but in the same realm, is the point that ideas of activity and aggression, of passivity and submission, become added to the idea of sexuality as such. Although it is more obvious in the adult relationship, observation of the normal sexual play of children reveals clearly that some of them tend to be aggressive (not to be confused with hostility), while others tend to be submissive to the roles imposed by other children.

Further along these lines is the attitude toward the mild pain of sexual play. Some children show a tendency to inflict such pain, often in the form of a vigorous embrace or gentle biting; others prefer to accept such pain. All these are what might be termed rudimentary sexual manifestations. They play an important part in mature sexual relationships. The adult takes pleasure in looking at the body of his sexual partner, and in showing his own body. The caresses of adult love-making are quite comparable to the intimate explorations made by children. In the sexual relationship of adults, one partner always tends to be more aggressive, the other submissive; a mild degree of pain may be inflicted by one and sustained by the other.

The attitude of the parents toward the child's early sexual manifestations is a major factor in determining whether, when the child grows up, he will be able to participate in a normal adult sexual relationship. The more relaxation and ease there is in discussions of sexual organs and activities between parent and child, the less likely is the child to develop undue tension.

But problems in attitudes toward sex can arise in far less obvious fashion. For example, the parents may have hoped ardently for a boy, and have had a girl. In the face of this unfulfilled wish, the parents' attitude toward the girl might influence her feelings toward femininity and masculinity. Instead of accepting herself as an individual with rights, privileges and dignity equal to those of a boy, the child may come to feel that there is something "wrong" with her —something which makes her parents less acceptant of her than if she were a boy. This will breed in her a feeling of inferiority, a sense that girls are not as acceptable as boys, and will translate itself inevitably into a hostility toward boys — a hostility which will later be transferred to men. Under such conditions, it will be almost impossible for her to achieve a normal, healthy relationship with a man.

Such a girl may compensate for her feelings of inferiority by taking an aggressive attitude toward men, or by attempting to ignore men, and focussing her interests on other girls and women.

A NORMAL DEVELOPMENT

Almost all normal persons go through what might be termed a "homosexual" period of development. This usually occurs during childhood or adolescence, when interest is focussed on individuals of the child's own sex. Should this normal homosexual attachment become reinforced by some psychological factor, however, it is possible that the child's progress through and beyond the homosexual level will be halted, and the child will not go through the normal course of transferring his interests and affections to the opposite sex.

One finds sometimes, for example, that the daughter of a widow may tend to focus all her love on her mother. The child has had insufficient contact with men; she has not had the opportunity to learn what men are like psychologically; and she develops a distrust of them. In her later development, such a child may transfer to other women the excessive affection she had for her mother, and she may transfer to all men a distrust or uneasiness toward masculinity in general. While it is perfectly normal for a son or a daughter to invest an apparently disproportionate degree of love in a parent, this phase is normally transient. Should there be factors which make the phase permanent, the base is laid for sexual maladjustment with inability to adjust normally to a partner of the opposite sex. Similarly, a child who has been exposed to much maltreatment by one parent may not be able to develop healthy attitudes toward other individuals of the same sex as the offending parent.

It must be re-emphasized that a most important factor leading to healthy emotional attitudes and healthy social adjustment in the child's later life is the emotional adjustment of the parents during childhood. But even parents who are not themselves emotionally well adjusted can contribute a great deal toward mental health in their children, and can prevent much trouble for them by learning and following the principles of child training and child psychology.

These two articles on the sexual life of children (the first appeared in the June issue of the *Reports*) cannot, of course, cover the whole subject. But some of the principles discussed are worth reviewing:

The child's sexual functions need to be treated with the same calm objectivity that is used in explaining the workings of the toy truck, the facts of digestion and circulation, and the meaning of various natural phenomena. The greater the degree of emotional health in the parents, and the more thoroughly the child is accepted, the more likely it is that no serious problems will arise. Sexual curiosity in a child is as natural as is curiosity about other aspects of life, and if the parents do not use a punishing or a repressing approach, the child will of himself soon surrender socially "objectionable" behavior. There are great fluctuations in

the degree of sexual interest, with occasional peaks, first at the age of three or four, then again at puberty. Masturbation in a child is as normal as crawling; the less attention that is called to it, the better.

(Dr. Lander's articles on other aspects of child psychology will be continued in subsequent issues of the *Reports*.)

CIRCUMCISION

CU's medical adviser discusses some of the medical and psychological aspects of this problem

Circumcision is one of the oldest and most widely practiced rites of mankind. Cave drawings have been unearthed showing circumcised men who lived in the Paleolithic Era. Circumcision was practiced in ancient Egypt long before the Hebrew tribes made it a part of their religious ritual. But the Hebrews adhered to the custom with such tenacity that it became and has remained one of their fundamental religious practices. Circumcision is also practiced by Moslems and by certain tribes of Central Africa and the South Sea Islands. Thus, circumcision is performed either as a religious rite or as an act of hygiene by many peoples and in many different areas of the world.

How did circumcision come to be such an important human ceremonial, and why is it still practiced by such a large proportion of the population? Several theories have been formulated as to the origin of the rite. One is that it was a form of tribal identification. Another theory is that it was a mark of hygiene, though the fact that circumcision was and is practiced by some unhygienic peoples seems to argue against this idea. Still other theories suggest that the rite was intended to discourage masturbation, or to lessen sexual sensitivity. But such theories are not consistent with the fact that there is no essential difference between the sexual capacities or activities of circumcised and uncircumcised males. The theory with the greatest plausibility and support is that the rite originally was a form of phallic worship.

Authorities on world religions believe that some of the practices of organized religions of the world today arise out of the primitive worship of the genital organs. In the earliest days of mankind such worship was very frank, and was associated with the belief that the tribal deities had most of the physical properties of man. The first-born was often sacrificed to these tribal gods to insure the health of the remainder of the tribe. As concepts of religion developed, the sacrifices changed from giving an entire body to giving a part of the body—such as a finger, or the lobe of an ear, or the foreskin of the penis. These smaller sacrifices were considered to be as appeasing to the god as the sacrifice of the child itself. That the foreskin should have been chosen is understandable from the important role that the genitals played in ceremonial rites and taboos.

In any event, the origin of the rite of circumcision is no longer recognizable in the modern performance of the operation. The justification for circumcision is, in fact, no longer exclusively religious. It is now justified on hygienic grounds. Cancer of the penis, for example, appears to be non-existent or very rare in men who were circumcised in infancy, whereas it does occur in uncircumcised males. There is no doubt that a foreskin does encourage the accumulation of secretions and thus promotes irritation of the penis. And prolonged irritation may be a predisposing factor in the development of cancer of the penis. While cancer of the penis is not a common malignant disease in men, it occurs sufficiently often, according to some observers, to warrant consideration of circumcision in any male infant.

Other disorders of the penis are also more common in uncircumcised men. Infections by common bacteria in the area beneath the foreskin and the development of small warts are common disorders in uncircumcised boys and men.

Whether the operation is performed by the attending obstetrician or practitioner, or by a *Mohel*, as in the orthodox Jewish rites, is a matter of religious belief. But in any case the same rules of asepsis should be followed as in any surgical operation. The use of saliva to moisten the wound (as is done by some rigidly orthodox *Mohels*) should be prohibited by the parents. An essential precaution to be taken before operation is the determination of the blood coagulation time of the infant, in order to avoid performance of the operation on "bleeders" (those with hemophilia).

Aside from the physical aspects, there are emotional problems associated with circumcision that parents must consider. If the circumcised boy associates with other boys who are uncircumcised, it is essential that he be given an explanation, so that he will not be disturbed by the difference in appearance of his penis as contrasted with those of his companions.

There is absolutely no justification for circumcision as a measure to prevent masturbation or bed-wetting (enuresis). Too often physicians or parents ask for circumcision in boys of two to three years of age or older because there are signs of irritation about the foreskin and because they assume that such irritation is a cause of masturbation or bed-wetting. On the contrary, the irritation is often the effect of the masturbation rather than the cause. Masturbation is universal among infants, both male and female. Parents and educators recognize that all infants get pleasure in handling their genitals and that such pleasure is a part of the normal growth and development of the child's emotions and personality. To urge circumcision as a measure that will discourage masturbation is not only futile, but dangerous. In the child's understanding, the circumcision seems to be a punishment for his masturbation. Severe repression of normal sexual feelings will occur. Such repression can be responsible in later years for severe impotence in sexual performance and for the development of serious neurotic traits.

It must be emphasized again that masturbation or the stimulation of one's own genitals for the sake of sexual pleasure is a normal phenomenon in infancy and adolescence. Physicians have found that persons—male or female—who did not masturbate during adolescence had their sexual urges overpowered to a high degree by fear and guilt feelings.

Such fear and guilt feelings arise out of prohibitions imposed by the parents or "parent-substitutes" (such

as nurses) during childhood. Circumcision as a method of preventing masturbation is the worst form that such prohibition can take. To the child it is the psychological equivalent of complete castration of the genital organs. Therefore it must be avoided at all costs—not only as a preventive of masturbation but even when irritations in the region of the foreskin might seem to indicate the need for the operation. If circumcision is done, it should be performed before the child is six months of age—before genital sensitivity has developed to any considerable degree. The most dangerous period for circumcision is between the ages of two and five, when the child's emotional and sexual energies are focused on the genitals. A child as young as two is likely to become tense and anxious following the operation—no matter how skilfully it is performed.

Between the ages of five and twelve, or the beginning of puberty, the child is learning how to deal with forbidden or strong urges. An operation on the penis during this period would also be bad for the child's emotional development. With puberty (11-16) comes a renewed upsurge of sexual feelings and a tendency to renewed masturbation. Masturbation at this period is often associated with feelings of guilt. Circumcision as a measure to prevent masturbation can cause a psychological catastrophe. The adolescent boy tends consciously or unconsciously to connect the operation with his sexual urges, and considers himself punished or "castrated" for harboring sexual desires or for satisfying them through masturbation. From the standpoint of a child's emotional and mental health, circumcision as a method of treating a disorder of the penis should be done either before the age of six months, or it should be postponed until adulthood.

If for some sound medical reason (masturbation and bed-wetting are *not* sound medical reasons) circumcision must be done after the age of six months, it should be postponed, if possible, at least until the child can understand the reason for the operation. If for some important medical reason it must be done, the entire operation and the reasons for it should be thoroughly discussed with the child beforehand.

CUMULATIVE INDEX

Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1946 Buying Guide issue. By supplementing the Buying Guide index with this one, members can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1946 issue: Jan. 1-28, Feb. 29-56, Mar. 57-84, Apr. 85-112, May 113-140, June 141-168, July 169-196, Aug. 197-224.

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